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Final

Meeting Minutes Transmittal/Approval
Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
450 Hills Street, Richland, Washington
August 26, 1992

FROM/APPROVAL: E D Goller Date 9-23-92
Eric D. Goller, 100 Area Unit Manager, RL (A5-19)

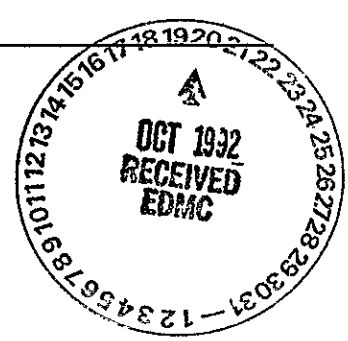
APPROVAL: _____ Date 9/23/92
Darci Teel, 100 Aggregate Area Unit Manager, WA Department of Ecology

APPROVAL: _____ Date 9-23-92
Dennis Faulk, 100 Aggregate Area Unit Manager, EPA (B5-01)

9212750812

Meeting Minutes are attached. Minutes are comprised of the following:

Attachment #1	-	Meeting Summary
Attachment #2	-	Agenda
Attachment #3	-	Attendance
Attachment #4	-	Action Item Status List
Attachment #5	-	100 Area Wide Activities Schedule
Attachment #6	-	Appendix D-1: Surface Water/Sediment Investigation for the 100 Aggregate Area
Attachment #7	-	Ferris Method for Inferring Aquifer Hydraulic Parameters
Attachment #8	-	Work Plan Status
Attachment #9	-	100-DR-1, 100-HR-1 and 100-NR-1 OUs
Attachment #10	-	100-HR-3, 100-NR-2 OUs
Attachment #11	-	100-BC-1, 100-KR-1 and 100-FR-1 OUs
Attachment #12	-	100-BC-5, 100-KR-4 and 100-FR-3 OUs
Attachment #13	-	100 NPL Agreement/Change Control Form 13 - Rev. 1



Prepared by: Suzanne Clarke Date: 9/28/92
Suzanne Clarke, Kay Kimmel, GSSC (A4-35)

Concurrence by: _____ Date: 9/23/92
Bob Henckel, WHC Coordinator (H4-55)

Attachment #1
Meeting and Summary of Commitments and Agreements

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
August 26, 1992

1. SIGNING OF THE JULY 100 AREA UNIT MANAGER'S MEETING MINUTES - Minutes were reviewed and approved with changes.

2. ACTION ITEM UPDATE: (See Attachment 4 for complete status, items listed below indicate the update to Action Items made during the meeting):

   1HR3.32 Closed (8/26/92). Floodplain statement of findings published 7/23/92. (7/29/92) Information bulletin for categorical exclusion to DOE-RL for approval (8/17/92).

   1AAMS.5 Open. Submitted to DOE on 5/18/92. (8/26/92)

   1AAMS.7 Open. No additional information (8/26/92).

   1AAMS.9 Open. No additional information (8/26/92).

   1AAMS.14 Open. Date TBD (8/26/92).

   1AAMS.15 Open. In DOE for transmittal (8/26/92).

   1AAMS.16 Open. In DOE for transmittal (8/26/92).

3. NEW ACTION ITEMS (INITIATED AUGUST 26, 1992):

   No new action items.

4. 100 AREA ACTIVITIES: See Attachment #5 for the schedule.

   - 100 Area General Discussions

     Meeting to be held on Sept. 8 at 9:00am in the EPA office on comment resolution for River Impact Study.

   - 100 Area Common Studies - Steve Weiss

     Sampling rounds planned for October/November.

   - Groundwater - Bob Peterson/William McMahon

     B. Peterson provided a preview of the scope and content of the report written to fulfil M-30-04 (see Attachment #6). He also discussed shoreline sampling, noting that the river stage is a variable that contributes significantly to the measured analyte concentration. He also explained

that historically there was a major difference in testing methods making comparisons of sampling data difficult. However, he did note that in the 1991 spring/seep sampling round the analyte concentrations generally appeared to be lower than those of earlier years. B. Peterson reported that Sr-90 activity was higher than expected in the 100 F area. S.E. Clarke mentioned that the animal studies conducted in the 100 F Area are expected to have had a major impact on the Sr-90 concentration. B. Peterson reported that the radionuclides and heavy metals tend to accumulate in the finer grained sediments.

W. McMahon compared the results from the river stage ratio method versus the lag time method (see attachment #7). Data from the 300 Area better fit the Ferris model and was used in the analysis.

- Sample Status - Bob Henckel

  Sample analysis backlog from March and April will be complete by August. All samples after March will utilize 100 day turnaround time for samples at TMA.

- Work Plan Status - Alan Krug

  See attachment #8.

5. FIELD ACTIVITIES:

100-DR-1, 100-HR-1, 100-NR-1 Operable Units - Alan Krug (Attachment #9)
Jeff Ayres presented information on 100-HR-1. Septic excavation (1607-H4) was finished, completing M-30-03 for 100-HR-1.

100-HR-3, 100-NR-2 Operable Units - Steve Vukelich (Attachment #10)
At well N-80 the flammable gas encountered during drilling has been confirmed to be hydrogen.

100-BC-1, 100-KR-1, 100-FR-1 Operable Units - Kevin Kytola (Attachment #11)

100-BC-5, 100-KR-4, 100-FR-3 Operable Units - Steve Vukelich (Attachment #12)

6. INFORMATION ITEMS

- A meeting on 100-NR-2 has been tentatively scheduled for the afternoon of Sept. 22, 1992.
- A scoping meeting on the future format of 100 Area work plans in general (and 100-BC-2 specifically) is scheduled for the week of Sept. 14, 1992.
- HEIS update will be scheduled for next General Topics meeting.
- The agenda shows special discussions to take place between RL, EPA, WDOE, WHC, Leads only, and no minutes were taken.

Attachment #2
Agenda

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
August 26, 1992

100 Area General Discussions
- 100 Area Common Studies - Steve Weiss
- Groundwater - Bob Peterson
- Sample Status - Karl Pool
- Work Plan Status - Alan Krug

100-DR-1, 100-HR-1, 100-NR-1 Operable Units - Alan Krug
- Activity Status
- Special Discussions

100-HR-3, 100-NR-2 Operable Units - Steve Vukelich
- Activity Status
- Special Discussions

100-BC-1, 100-KR-1, 100-FR-1 Operable Units - Jeff Ayres
- Activity Status
- Special Discussions

100-BC-5, 100-KR-4, 100-FR-3 Operable Units - Jim Roberts
- Activity Status
- Special Discussions

Other
- Action Item Status - All
- Past Practices Strategy Presentation - TBD
- Special Discussions - RL, EPA, WDOE, WHC-Leads only

Attachment #3

100 Aggregate Area Unit Manager's Meeting
Official Attendance Record
August 26, 1992

Please print clearly and use black ink

PRINTED NAME	SIGNATURE	ORGANIZATION	O.U. ROLE	TELEPHONE
KAY KIMMEL	Kay Kimmel	SWEC	GSSC	509-372-0610
Eric Goller	Eric Goller	RL	RL 100 Areas	509 376-7326
Brian Drost	Brian Drost	USGS	EPA Support	206 593-6510
Paul Pak	Paul Pak	RL	200 Areas	509-376-4798
Don O'Brien	Don O'Brien	Weston	DOE-HQ Support	301-353-1281
R Douglas Hildebrand	R D. Hildebrand	DOE-TSD	Ecological	509-376-7287
Jeff Kellam	Jeff Kellam	USPHS/ATSDR	Public Health Assessment	404 639-6036
STEVE VUKELICH	Steve Vukelich	WHC	100 GW	376-5158
Steve Cross	Steve Cross	Ecology	CERCLA Unit	206459-6775
KEVIN KYTOLA	Kevin Kytola	WHC	100-BC-1/2	372-1662 509
Alan D. Krug	Alan D. Krug	WHC	100 H,D,N	509 376 5634
ROBERT P. HENCKEL	Robert P. Henckel	WHC	100 AREA RIG	509 376 2091
Larry Gadbois	Larry Gadbois	EPA	Unit Manager	509 376-9884
Dennis Faulk	Dennis Faulk	EPA	Unit Manager	6-8631
Andree DeAngeles	Andree DeAngeles	~~EPA Support~~ PRC	EPA Support	206-624-2692
Suzanne Clarke	Suzanne Clarke	SWEC	GSSC to RL	509-372-0630
Dib Goswami	Dib Goswami	Ecology	O.U.M	505-546-4301
CHUCK CLINE	Charles Cline	Ecology	O.U.M.	(206) 438-7556
Darci Teel	Darci Teel	Ecology	OUM SUPPORT	509 545 2312
Jeff Phillips	Jeff Phillips	Ecology	OUM	509 546 2968
Paul Beaver	Paul Beaver	EPA	Unit Mgr	376-8665
William McMahon	William J McMahon	WHC	Geoscience Support	376-9744
Jonathan Sproedon	Jonathan Sproedon	Brown and Caldwell	Ecology Support	(503) 244-7005
Jim Patterson	Jim Patterson	WHC	ER PROGRAM OFFICE	(509) 376-0568
Ed Yancey	Ed Yancey	WHC - site plng		376-8134

Attachment #3

100 Aggregate Area Unit Manager's Meeting
Official Attendance Record
August 26, 1992

Please print clearly and use black ink

PRINTED NAME	SIGNATURE	ORGANIZATION	O.U. ROLE	TELEPHONE
Pamela Innis	[signature]	EPA	Unit Manager	509/376-4919
Mike Stankovich	[signature]	WHC	100 Area	509/376-2493
Steve Weiss	[signature]	WHC	100 Aggregate Ecological Actions	509 376-1683
Billie Mauss	[signature]	Ecology	Technic Support	509-546-2993
Jack Donnelly	[signature]	Ecology	100 NR-1-3, HR-2, KR13 O.U.M	509-546-4331
Jeff Ayres	[signature]	WHC	100-HR/FR-1 HR-2	509-376-3918
Bryan L. Foley	[signature]	DOE-RL	N/A	509-376-6679
Larry Hulstrom	[signature]	WHC	300 FF5 OU Coordinator	509 376-4034
Rich Hibbard		Ecology	Unit Support	(206) 493-9367

Attachment #4
Action Item Status List

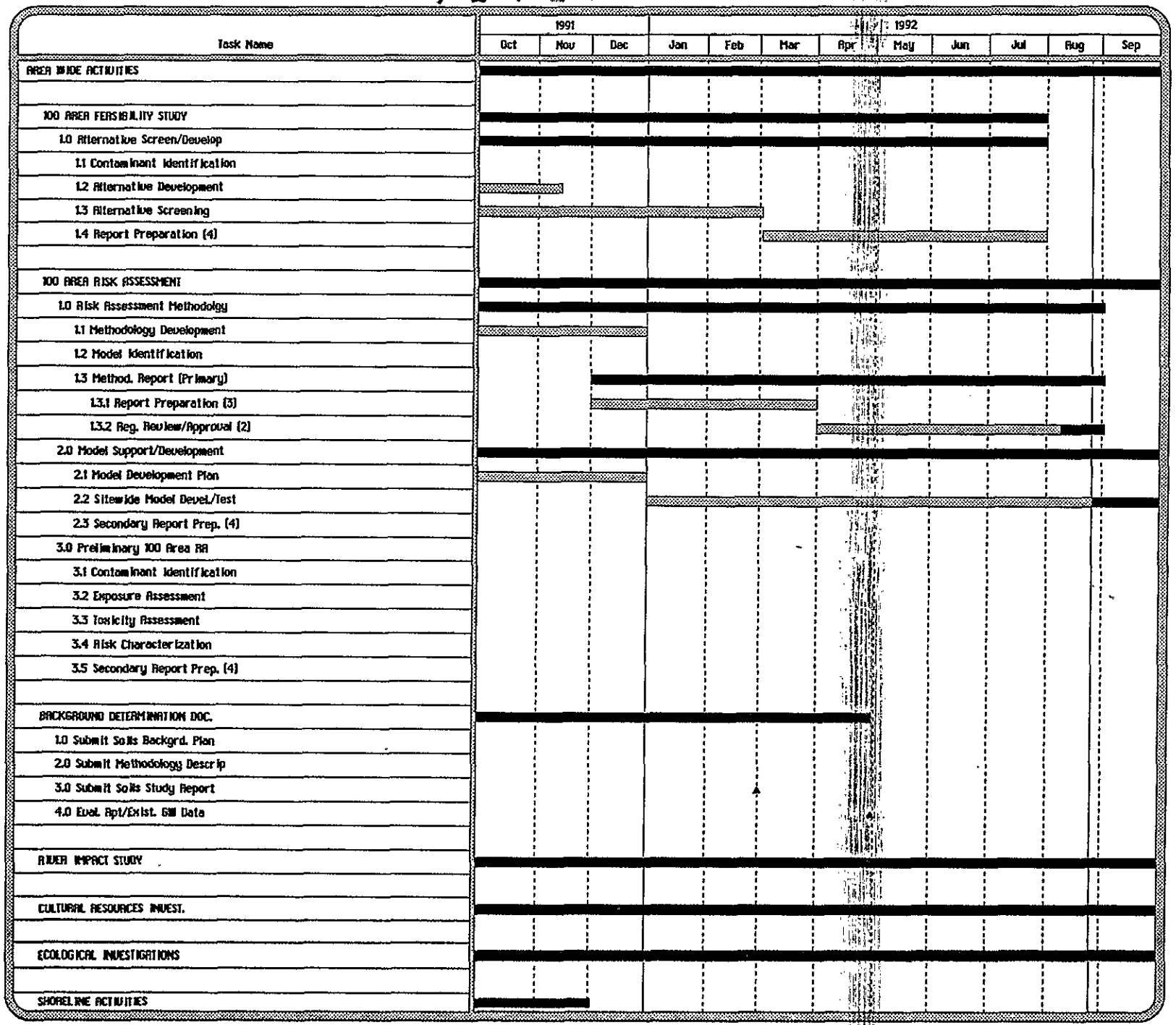
Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
August 26, 1992

ITEM NO.	ACTION	STATUS
1HR3.32	Regarding the removal of the vent pipes, WHC will: 1) Determine the need for an ACE permit; 2) obtain a letter from ACE that gives approval to begin work before the need for the permit is determined; and, 3) draft letters on the matter to the Natural Resources Trustees. Action: A. Krug (1/15/90)	Closed. Pending overall resolution (7/18/91). NEPA wetlands approval pending. USACE approval: resolution pending. 6/24/92 Floodplain statement of findings published 7/23/92. (7/29/92) Information Bulletin for categorical exclusion to DOE-RL for approval (8/17/92).
1AAMS.5	Ecology and EPA are to be provided with sampling data on mulberries from N-Springs as well as data from the vegetation eradication program. The specific herbicides that were used are to be included. Action: T. Poston and J. Goodenough. (1/23/92)	Open. Confirm that letter went out 6/24/92. Submitted to DOE on 5/18/92. (8/26/92)
1AAMS.7	Provide information to the regulators on how to retrieve rad counting data from the 222-S Lab. Action to Jeff Lerch (2/27/92). Action: Karl Pool (6/24/92)	Open. How does WHC get their data for shipping? Working with the sampling organization that receives the lab analyses to obtain the data and will work on getting the information to the regulators (8/5/92). No additional information. (8/26/92)
1AAMS.9	DOE shall send a letter to Ecology, suggested from S. H. Wisness to D. Jansen with a cc. to EPA, explaining what is included in the ER Program for the N Reactor Area and how the multiple programs will be handled organizationally. Action to J. D. Goodenough (2/27/92). Action: E. D. Goller (5/27/92).	Open. Related to the N Areas Issues Papers. No answer 7/29/92. No additional information (8/26/92).

ITEM NO.	ACTION	STATUS
1AAMS.12	Ecology requested that sampling on oil and grease well network be restarted in down-gradient wells N-3, N-8, and N-16 through N-26 (5/22/92 letter to Eric Goller from Steve Cross). Action to E.D. Goller (RL) 5/27/92	Open. No action 7/29/92. Draft NR-2 GW monitoring network in DOE review. Expect to resolve by Sept. UMM. (8/26/92)
1AAMS.13	To contact appropriate parties to develop a checklist of all requirements (training and health and safety) necessary for personnel to gain access to radiation exclusion zones. Action: Eric Goller (6/24/92).	Closed 7/29/92.
1AAMS.14	Schedule a presentation on the Hanford Site Past Practice Strategy targeted for the middle-to-latter part of August. Action: Eric Goller (RL) (7/29/92).	Open (7/29/92). Date TBD (8/26/92).
1AAMS.15	Provide response to April 2 EPA letter concerning river seeps. Action: Eric Goller (RL) 7/29/92.	Open (7/29/92). In DOE for transmittal (8/26/92).
1AAMS.16	DOE should transmit Revision 1 of M-30-01.	Open (7/29/92). In DOE for transmittal (8/26/92).

9 2 1 2 7 0 3 2 0

100 AREA WIDE ACTIVITIES



Attachment #5

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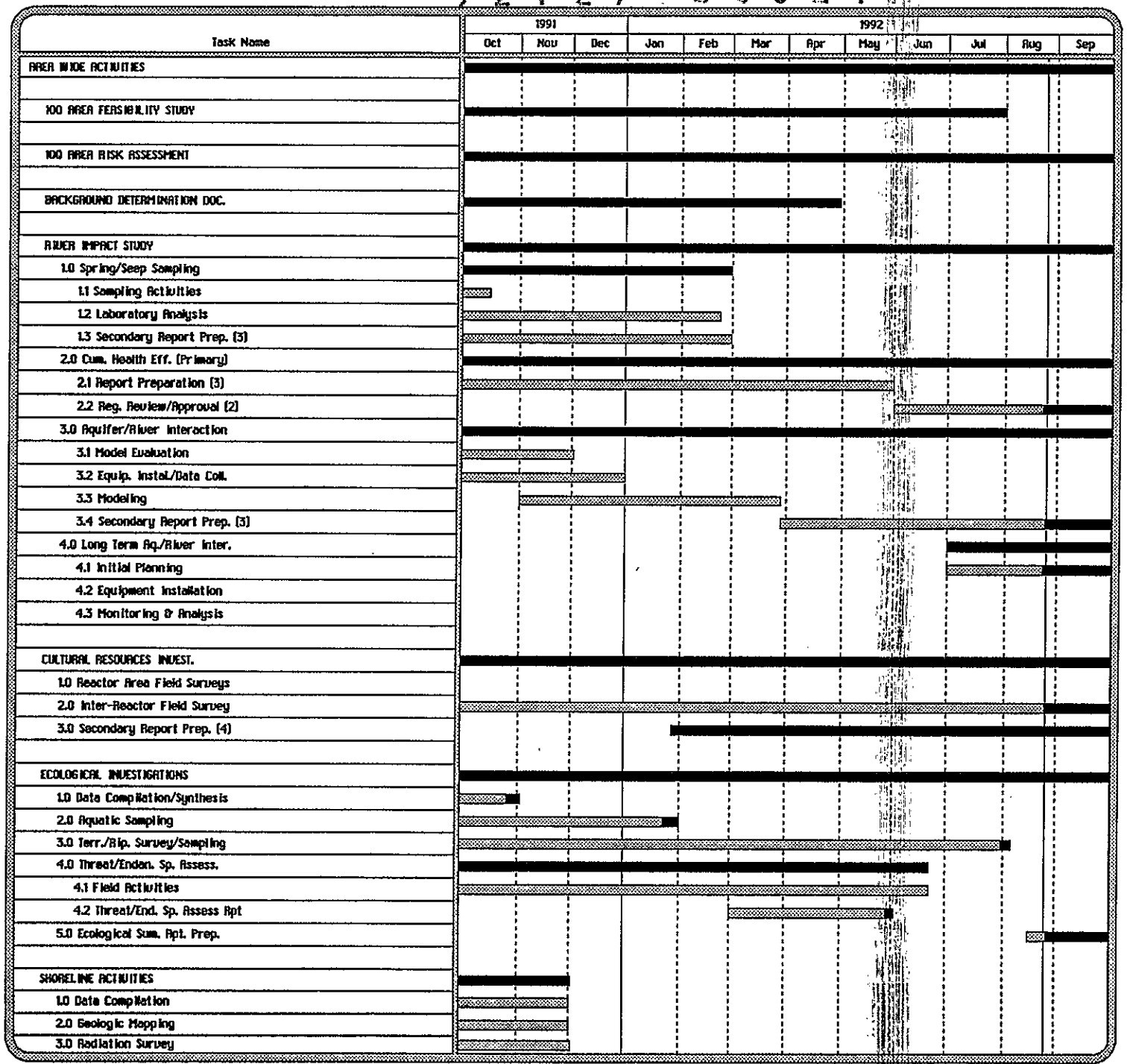
100 AREA WIDE ACTIVITIES



Attachment #6

APPENDIX D-1: SURFACE WATER/SEDIMENT INVESTIGATION FOR THE 100 AGGREGATE AREA

APPENDIX D-1: SURFACE WATER/SEDIMENT INVESTIGATION

Task Element 4.0: Data Evaluation

Purpose: (1) Evaluate residual effects of past Hanford Site operations on human health and the environment as related to the Columbia River

(2) Identify additional data needs

(3) Develop plan to resolve additional data needs

Selected Products:

(1) Compilations of existing information

(2) Description of the results of 1991 riverbank sampling activity (Milestone M-30-01)

(3) Summary of existing information on cumulative health and environmental impacts to the Columbia River, including a plan for additional investigations (Milestone M-30-02)

(4) Maps describing shoreline features, including geology, riverbank seepage, and structures

(5) Results of analyzing water level fluctuations to infer aquifer properties (Milestone M-30-04)

TPA MILESTONE M-30-00: Complete Integrated General Investigations and Studies for the 100 Aggregate Area by September 1993

M-30-01 Submit a report (secondary document) to EPA and Ecology evaluating the impact to the Columbia River from contaminated springs and seeps, as described in the operable unit work plans listed in M-30-03 (February 1992)

M-30-02 Submit a plan (primary document) to EPA and Ecology to determine cumulative health and environmental impacts to the Columbia River, incorporating results obtained under M-30-01 (May 1992)

M-30-03 Complete all nonintrusive field work as identified in draft work plans for the following operable unit work plans: 100-HR-1, 100-HR-3, 100-DR-1, 100-BC-1, 100-BC-5, 100-KR-1, 100-KR-4, 100-NR-1, 100-NR-3, and 100-FR-1 (September 1992)

M-30-04 Submit a report (secondary document) to EPA and Ecology evaluating the interaction of Columbia River and the unconfined aquifer for aquifer hydraulic parameters (September 1992)

M-30-05 Install all field instrumentation and initiate monitoring activities necessary to perform long-term evaluation of Columbia River and unconfined aquifer interaction, in accordance with the tasks defined in operable unit work plans listed in M-30-03 (September 1993)

TPA MILESTONE M-30-04:

"Submit a report (secondary document) to EPA and Ecology evaluating the interaction of the Columbia River and the unconfined aquifer for aquifer hydraulic properties."

- Review Theoretical Approaches: Review published approaches for inferring aquifer hydraulic properties from water level data. Determine applicability to the Hanford Site.

- Obtain Hanford Site-Specific Data: Hourly water level data are collected in three wells each at 100-B, 100-H, and 100-F Areas. River stage is also recorded at 100-B and 100-H.

- Analyze Cyclic Fluctuations in Water Levels: The Ferris method is being used to test the feasibility of inferring aquifer hydraulic properties by correlating fluctuations in river stage with water levels fluctuations in wells.

- Document Results: Report describing (1) feasibility of method, (2) results of application using Site data, and (3) comparison of results to other estimates for aquifer hydraulic properties, and (4) recommendations for continued data collection activities. Report is due by September 1992.

RIVERBANK SEEPAGE AND GROUNDWATER ALONG THE 100 AREAS SHORELINE, HANFORD SITE

FIGURE 2-1. NITRATE IN SEEPAGE. A DRINKING WATER STANDARD FOR NITRATE IS 45,000 (ppb).

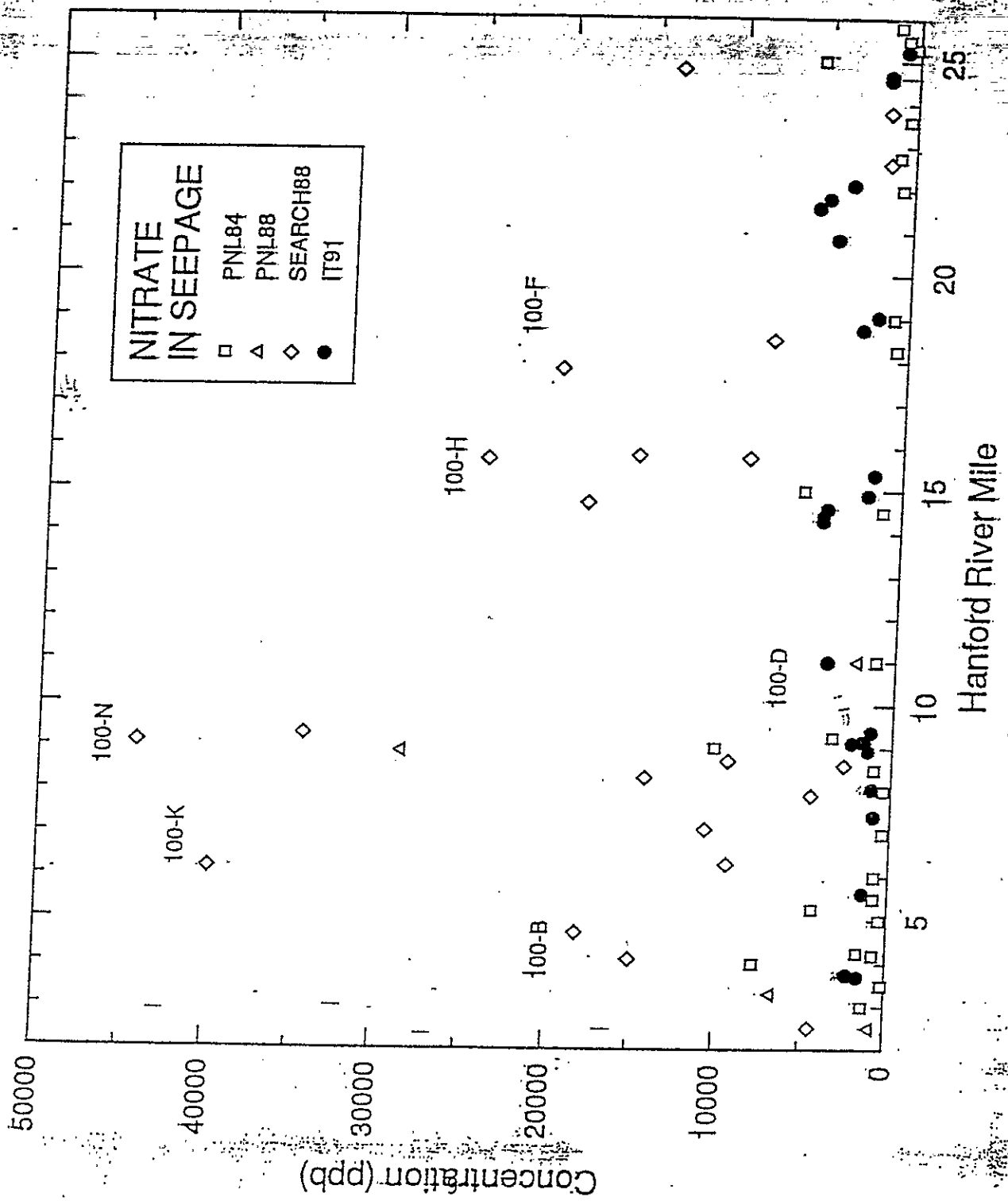


FIGURE 3-1. EXAMPLE CONCENTRATION PLOT USED TO ESTIMATE GROUNDWATER CONDITIONS DURING THE FALL 1991 SEEPAGE SAMPLING PROJECT.

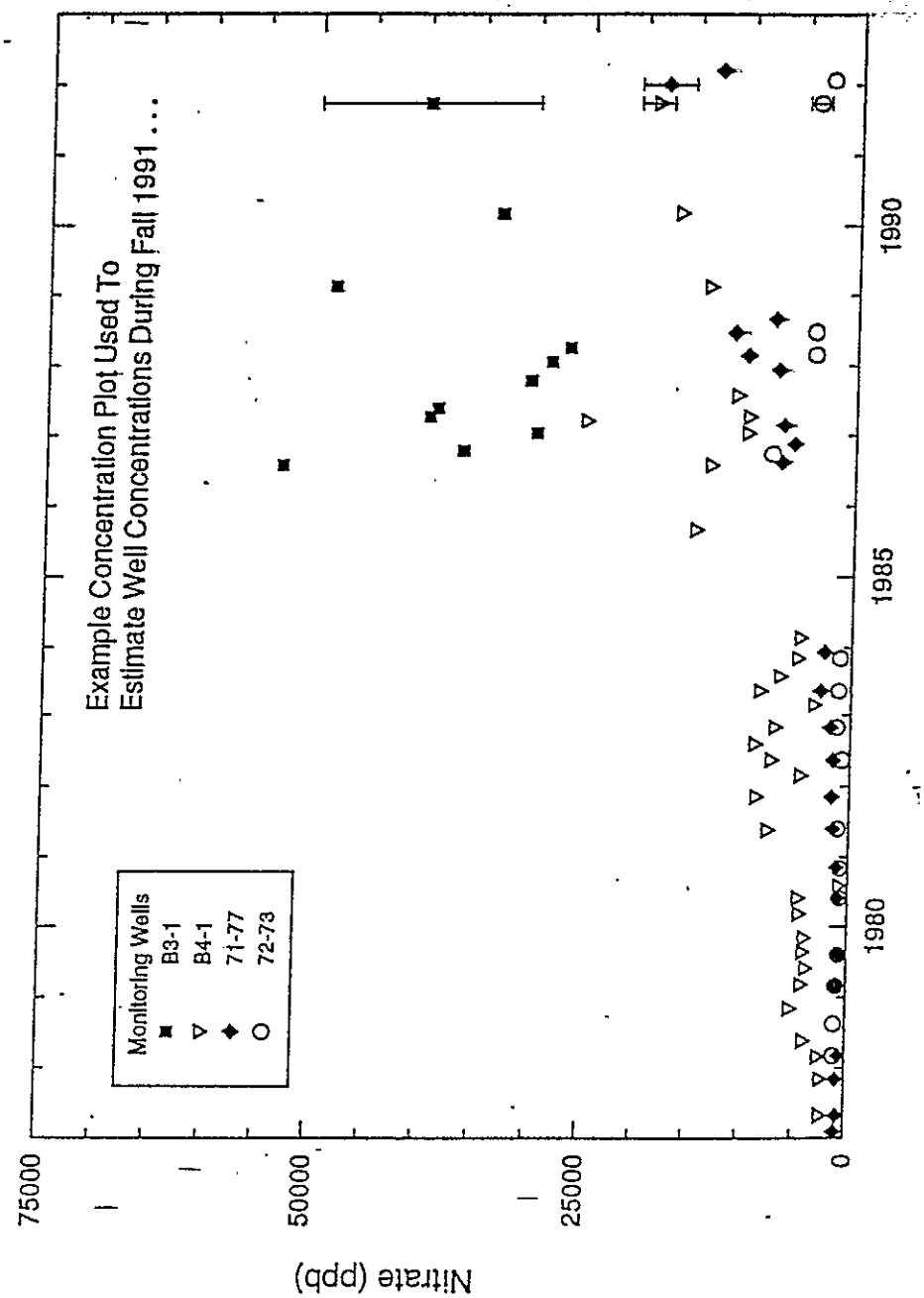


FIGURE 3-2. NITRATE IN SEEPAGE, RIVER, AND SHORELINE WELLS.

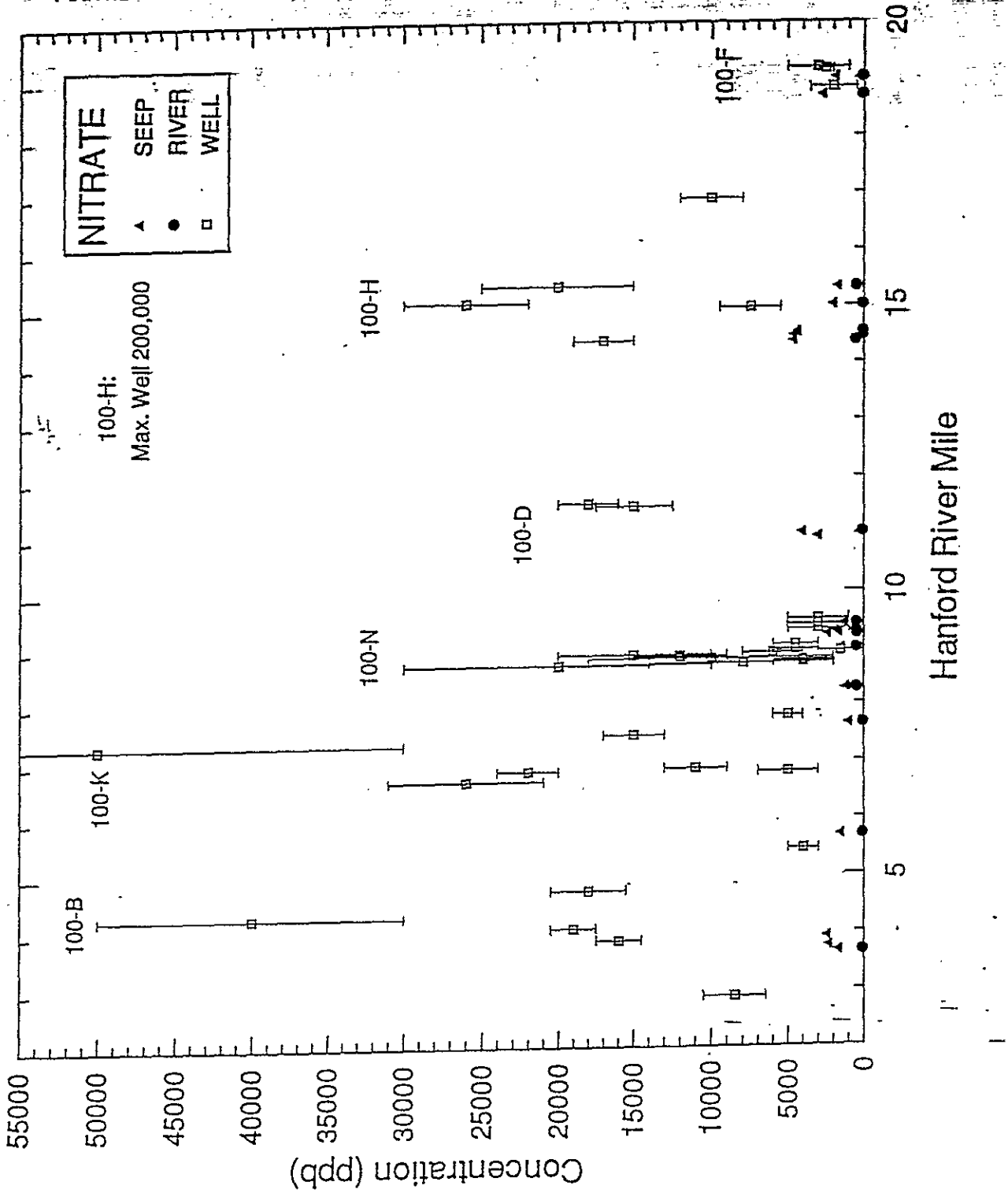


FIGURE 4-1B. LOCATION MAP FOR MINING ACTIVITIES IN EASTERN WASHINGTON.

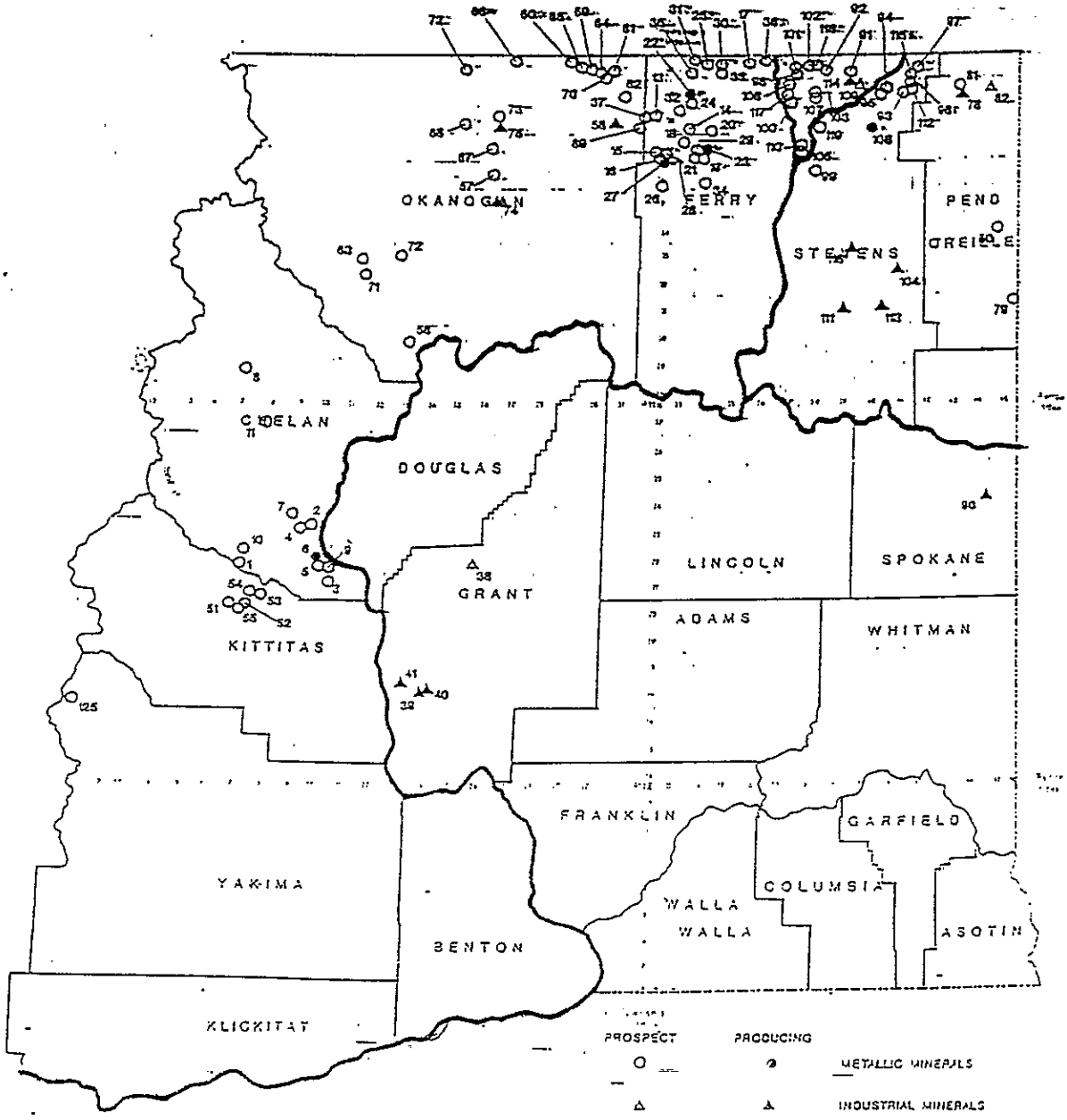


FIGURE 4-5. ZINC IN SEEPAGE SEDIMENT

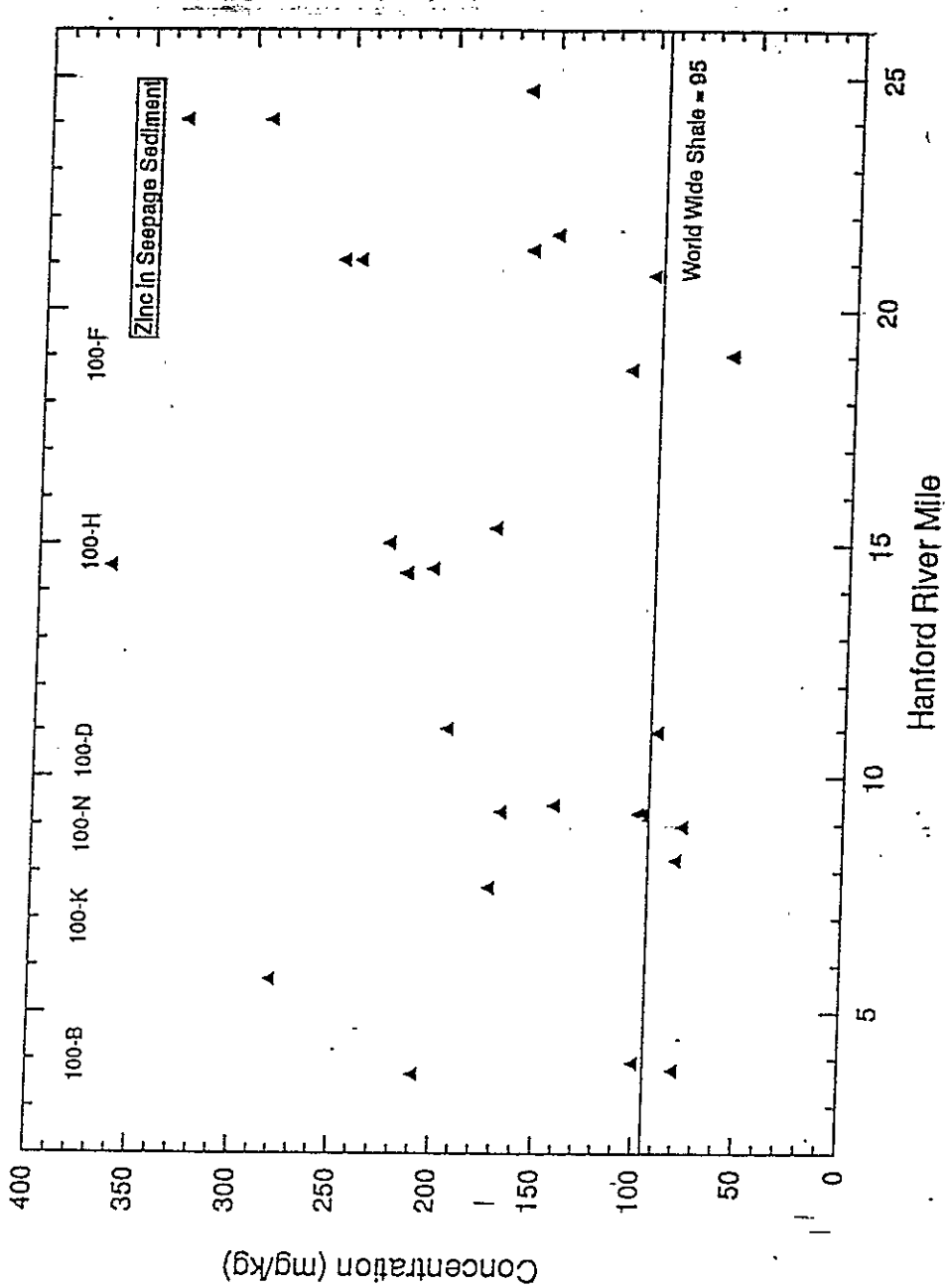
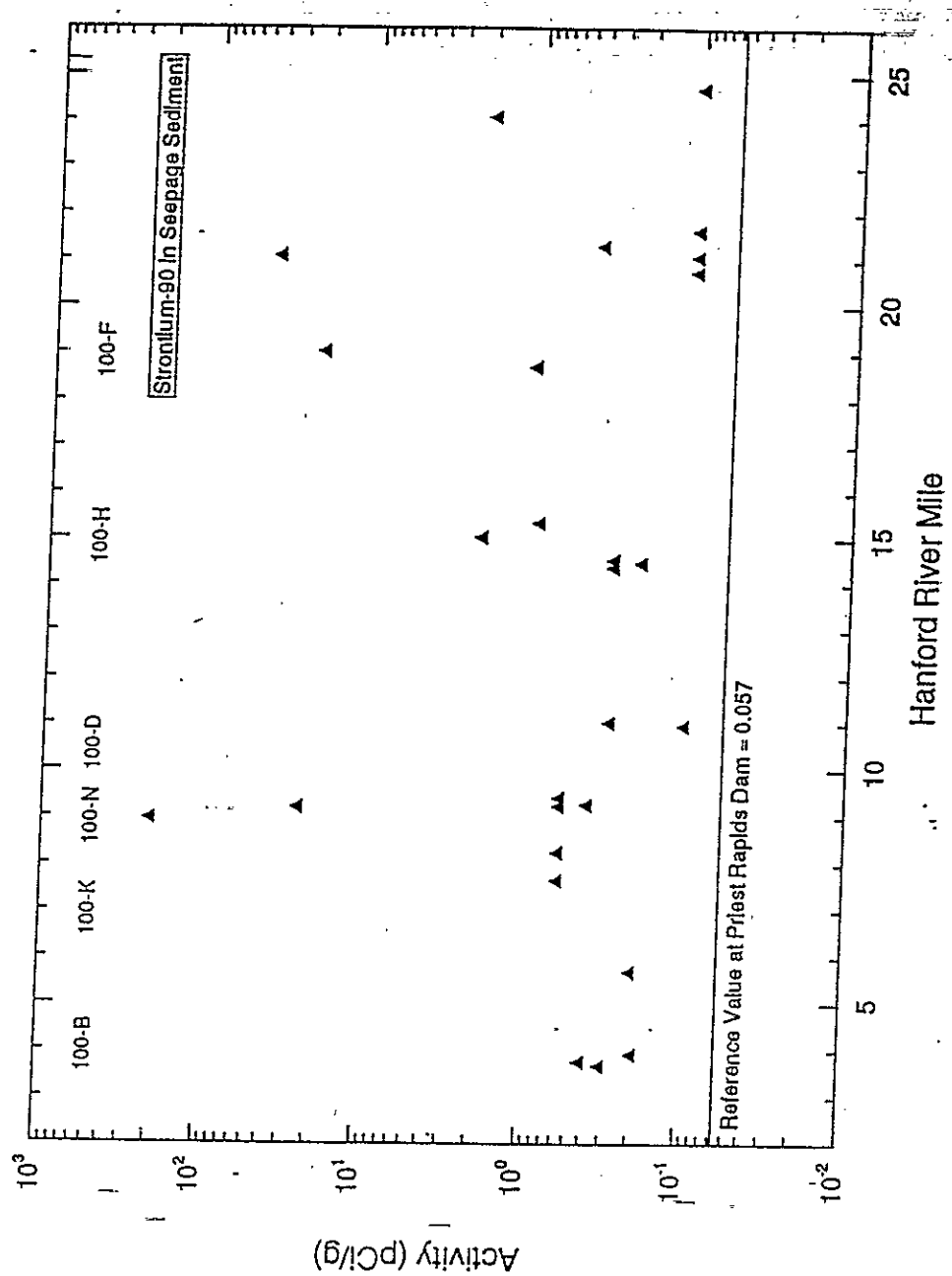


FIGURE 4-7. STRONTIUM-90 IN SEEPAGE SEDIMENT



Attachment #7

FERRIS METHOD FOR INFERRING AQUIFER HYDRAULIC PARAMETERS (Ferris 1963)

- An analysis of correlations between river stage fluctuations and subsequent water level changes in nearby groundwater wells.

- Aquifer property estimated is diffusivity. Diffusivity results from the combined effects of transmissivity and storage capability.

- Diffusivity is inferred in two ways: By analyzing (1) the ratio of stage changes in the river and water level changes in wells, and (2) the time lag between a river pulse and its appearance in a well.

FERRIS METHOD continued . . .

Assumptions

- A confined aquifer fully penetrated by the river
- The aquifer is isotropic and uniform in thickness
- River stage changes in a sinusoidal manner
- Change in storage occurs instantaneously and proportionally, to the change in pressure

If unconfined or not fully penetrated:

- No vertical component of flow
- Fluctuation is a small fraction of saturated thickness

Water Level Elevation in the 300 Area

May, 1992

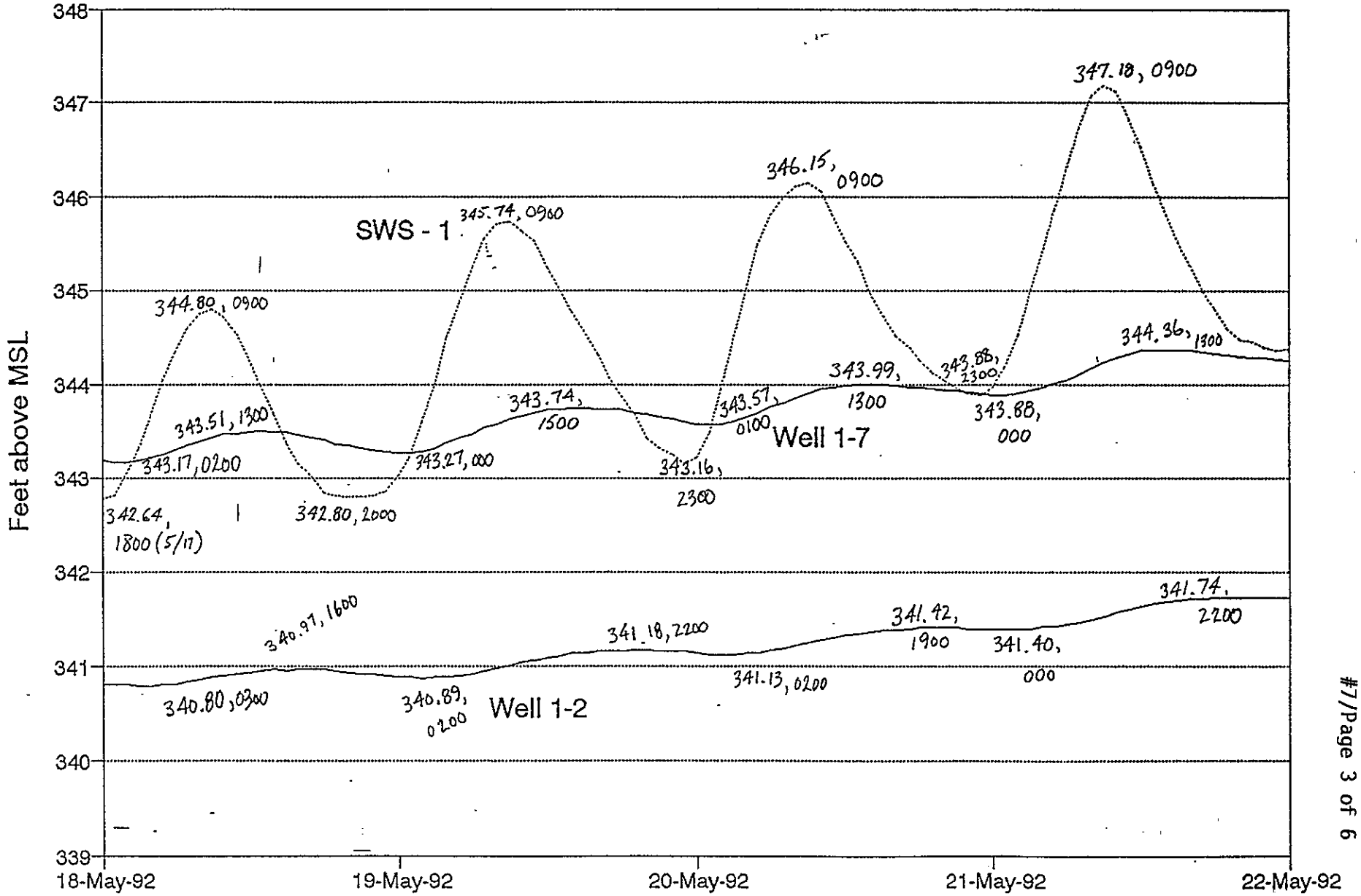


TABLE 1. RESULTS OF THE STAGE RATIO AND LAG TIME METHODS FOR CALCULATING AQUIFER DIFFUSIVITY FOR THE 399-1-7 AND 399-1-2 WELL LINE

Wells 399-1-7 and 399-1-2		
Stage Ratio Method		
Region	Time Span	Diffusivity (ft^2/day)
River - 399-1-2	May 17-21	3.84×10^6
River - 399-1-2	May 25-29	1.50×10^6
Lag Time Method		
River - 399-1-2	May 17-21	1.50×10^6
River - 399-1-7	May 17-21	1.32×10^6
399-1-7 - 399-1-2	May 17-21	1.71×10^6
River - 399-1-2	May 25-29	2.13×10^6
River - 399-1-7	May 25-29	1.24×10^6
399-1-7 - 399-1-2	May 25-29	4.44×10^6

TABLE 2. RESULTS OF THE STAGE RATIO AND LAG TIME METHODS FOR CALCULATING AQUIFER DIFFUSIVITY FOR THE 399-3-9 AND 399-3-12 WELL LINE

Wells 399-3-9 and 399-3-12		
Stage Ratio Method		
Region	Time Span	Diffusivity (ft^2/day)
River - 399-3-12	May 17-21	1.46×10^7
River - 399-3-12	May 25-29	1.26×10^7
Lag Time Method		
River - 399-3-12	May 17-21	1.35×10^6
River - 399-3-9	May 17-21	1.15×10^5
399-3-9 - 399-3-12	May 17-21	5.09×10^6
River - 399-3-12	May 25-29	1.76×10^6
River - 399-3-9	May 25-29	1.50×10^5
399-3-9 - 399-3-12	May 25-29	6.65×10^6

TABLE 3. RESULTS OF THE STAGE RATIO AND LAG TIME METHODS FOR CALCULATING AQUIFER DIFFUSIVITY FOR THE 399-4-9 AND 399-4-1 WELL LINE

Wells 399-4-9 and 399-4-1		
Stage Ratio Method		
Region	Time Span	Diffusivity (ft^2/day)
River - 399-4-1	May 17-21	2.32×10^7
River - 399-4-1	May 25-29	1.95×10^7
Lag Time Method		
River - 399-4-1	May 17-21	2.05×10^6
River - 399-4-9	May 17-21	3.37×10^5
399-4-9 - 399-4-1	May 17-21	5.68×10^6
River - 399-4-1	May 25-29	2.60×10^6
River - 399-4-9	May 25-29	4.58×10^5
399-4-9 - 399-4-1	May 25-29	6.71×10^6

WORK PLAN STATUS
August 26, 1992

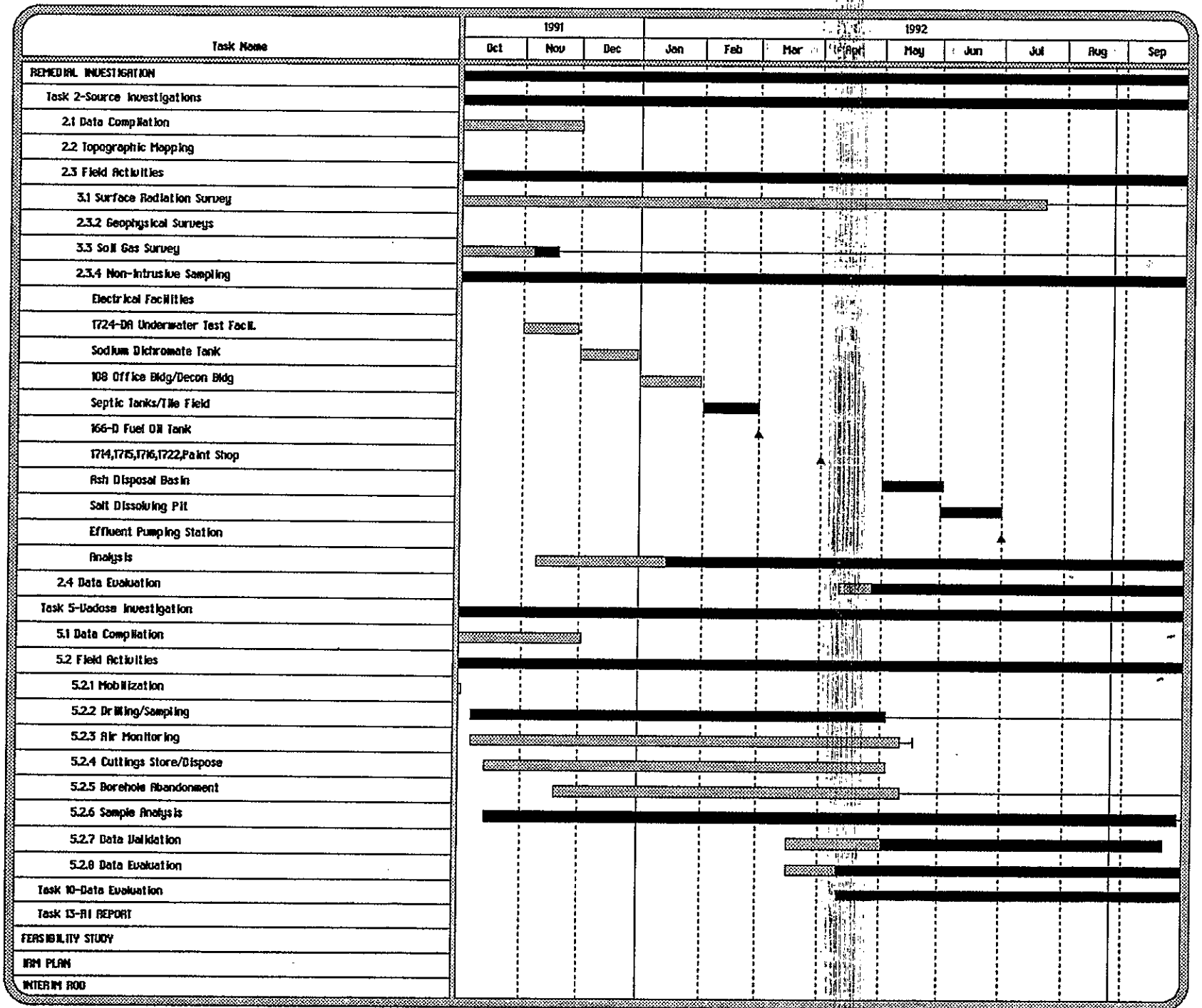
Operable Unit	Public Review	Transmit to RL	Transmit to Lead Regulatory Agency	Final Approval received from Lead Regulatory Agency
100-BC-1	3/19 - 4/18, 1992	7/7/92	7/14/92	7/22/92
100-BC-5	4/13 - 5/13, 1992	7/20/92	7/31/92	8/4/92
100-KR-1	5/11 - 6/10, 1992	7/21/92	In Process	
100-KR-4	5/11 - 6/10, 1992	TBD		
100-FR-1	6/1 - 7/1, 1992	7/28/92	In Process	
100-FR-3	6/1 - 7/1, 1992	TBD		
100-HR-1	7/6 - 8/4, 1992	TBD		
100-DR-1	7/6 - 8/4, 1992	TBD		
100-HR-3	7/6 - 8/4, 1992	TBD		
100-NR-1	TBD			
100-NR-2	TBD			

TBD = To Be Determined

Attachment #8

Attachment #9

100-DR-1, 100-HR-1, 100-NR-1 OUs
Alan Krug


Task Name
1991
1992
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
REMEDIAL INVESTIGATION
Task 2-Source Investigations
2.1 Data Compilation
2.2 Topographic Mapping
2.3 Field Activities
3.1 Surface Radiation Survey
2.3.2 Geophysical Surveys
3.3 Soil Gas Survey
2.3.4 Non-Intrusive Sampling
Electrical Facilities
1724-DR Underwater Test Facil.
Sodium Dichromate Tank
108 Office Bldg/Decon Bldg
Septic Tanks/Tile Field
166-D Fuel Oil Tank
1714,1715,1716,1722,Paint Shop
Ash Disposal Basin
Salt Dissolving Pit
Effluent Pumping Station
Analysis
2.4 Data Evaluation
Task 5-Vadose Investigation
5.1 Data Compilation
5.2 Field Activities
5.2.1 Mobilization
5.2.2 Drilling/Sampling
5.2.3 Air Monitoring
5.2.4 Cuttings Store/Dispose
5.2.5 Borehole Abandonment
5.2.6 Sample Analysis
5.2.7 Data Validation
5.2.8 Data Evaluation
Task 10-Data Evaluation
Task 13-RI REPORT
FEASIBILITY STUDY
IRM PLAN
INTERIM ROD

UNIT MANAGER'S MEETING
100-DR-1 OU
August 26-27, 1992
Room 47, 450 Hills

Presenter - N. M. (Naik) Naiknimbalkar

100-DR-1 Remedial Investigation

TASK NO.	ACTIVITY		STATUS
Task 2	SOURCE INVESTIGATION		
Task 2.1	DATA COMPILATION		COMPLETED DECEMBER 1992
Task 2.2	TOPOGRAPHIC MAPS		COMPLETED AUGUST 1991
Task 2.3.1	SURFACE RADIATION SURVEY		COMPLETED APRIL 1992
	SITES:	100-DR-1 Area With the exception of Controlled Zones.	
Task 2.3.2	GEOPHYSICAL SURVEY		COMPLETED MAY 1991
	SITES:	116-D-2 Pluto Crib Waste Acid Disposal Reservoir 1607-D4 Septic Tank Questionable Septic Tank (Routine surveys were conducted to locate drill hole sites & non-intrusive sites).	
Task 2.3	Soil Gas Surveys	See Table 1.	

Task 2.3.3

Table 1
100-DR-1 Operable Unit Soil Gas Surveys
Activity Completion Dates

Site Name	Probes Installed	Screened for Total VOC*	Sampled	Analyzed	Results Validated
1713-D	08-07-91	08-16-91	09-10-91	09-12-91	12-15-91
1714-D	07-24-91	08-16-91	09-09-91	09-10-91	12-15-91
1715-D	07-24-91	08-16-91	09-09-91	09-10-91	12-15-91
1716-D	08-06-91	08-16-91	09-05-91	09-07-91	12-15-91
1722-D	08-07-91	08-16-91	09-10-91	09-12-91	12-15-91
Paint Shop Near 182-D	08-30-91-06-15-92	Did Not Screen for VOC	09-09-91 06-24-92	09-10-91 06-24-92	12-15-91
184-DA UST	08-06-91	08-16-91	09-09-91	09-10-91	12-15-91
166-D Tank and Piping	08-01-91	08-16-91	09-11-91	09-13-91	12-15-91
103-D Fuel Element Storage Building	01-30-92	02-03-92	02-06-92	02-07-92	
1607-D4 Septic Tank	02-20-92	02-26-92	02-26-92	02-28-92	
Burial Ground 4A	02-25-92	02-26-92	02-26-92	02-28-92	
Burial Ground 4B	02-07-92	02-11-92	02-11-92	02-13-92	02-14-92
Burial Ground 18	01-23-92	01-28-92	02-19-92	02-21-92	
126-D-2 Landfill	11-25-91	12-17-91	06-24-92	06-24-92	

VOC* - Volatile Organic Compounds

Task 2.3.4 Non-Intrusive

See Table 2

Task 2.3.4

Table 2
Non-Intrusive

OPER. UNIT	SAMPLES	SAMPLING ACTIVITY	BEGINNING SAMPLING DATE	ENDING SAMPLING DATE	DATE DATA IS DUE FROM THE LAB.	VALIDATION COMPLETION DATE	REPORT MILESTONE DATE
100-DR-1	3	1724-DA Underwater Test Facility	10/16/91	10/16/91	3/16/92	4/6/92	6/30/92
	5	Sodium Dichromate Tank	1/16/92	1/16/92	6/16/92	7/6/92	8/30/92
	5	108-D Office Bldg/Decon Bldg	5/1/92	5/1/92	10/1/92	10/22/92	11/30/92
	5	Septic Tank/Tile Field	5/1/92 / 9/15/92	5/1/92 / 9/15/92	10/1/92 / 1/1/93	10/22/92 / 1/22/93	11/30/92 / 2/28/93
	5	Ash Disposal Basin	9/15/92	9/15/92	2/1/93	2/22/93	3/30/93
	6	Salt Dissolving Basin	9/15/92	9/15/92	2/1/93	2/22/93	3/30/93
	5	103-D Green Metal Storage	9/15/92	9/15/92	2/1/93	2/22/93	3/30/93
100-DR-1	25	Electrical Facilities*	9/11/91	9/11/91	2/11/92	3/1/92	5/1/92

*
Electrical Facilities Locations:

183-D (C4-S3), 185-D (C4-S11), 189-D (C4-S10), 190-D (E4-S9), 105-D (E4-S2), 151-D (A4), 190-DR (E4-S12/E4-S13), 181-D (C4-S1), 186-D (C4-S12), 105-DR (E4- S11), 190-D (C4-S13) and Pole East of D-Area along perimeter road.

Descriptions Of Work (DOW's): See Table 3

Table 3
Descriptions Of Work

DOW	One Week DOE-RL Review Starting:	Two Week Regulatory Review starting:	Sampling Activity Starting:
108 Office Building	3-04-92	3-18-92	5-27-92
Septic Tanks/Tile Fields	3-04-92/8-18-92	3-18-92/8-26-92	5-27-92/9-15-92
Ash Disposal Basin	8-18-92	8-26-92	9-15-92
100-D Salt Dissolving Pit	8-18-92	8-26-92	9-15-92
103-D Green Metal Storage Building	8-18-92	8-26-92	9-15-92

Task 2.4 Data Evaluation

Task 3 Geological Investigation
-Performed as part of 100-HR-3

Task 4 Surface Water and Sediment Investigation
-Performed as part of 100 Area wide task

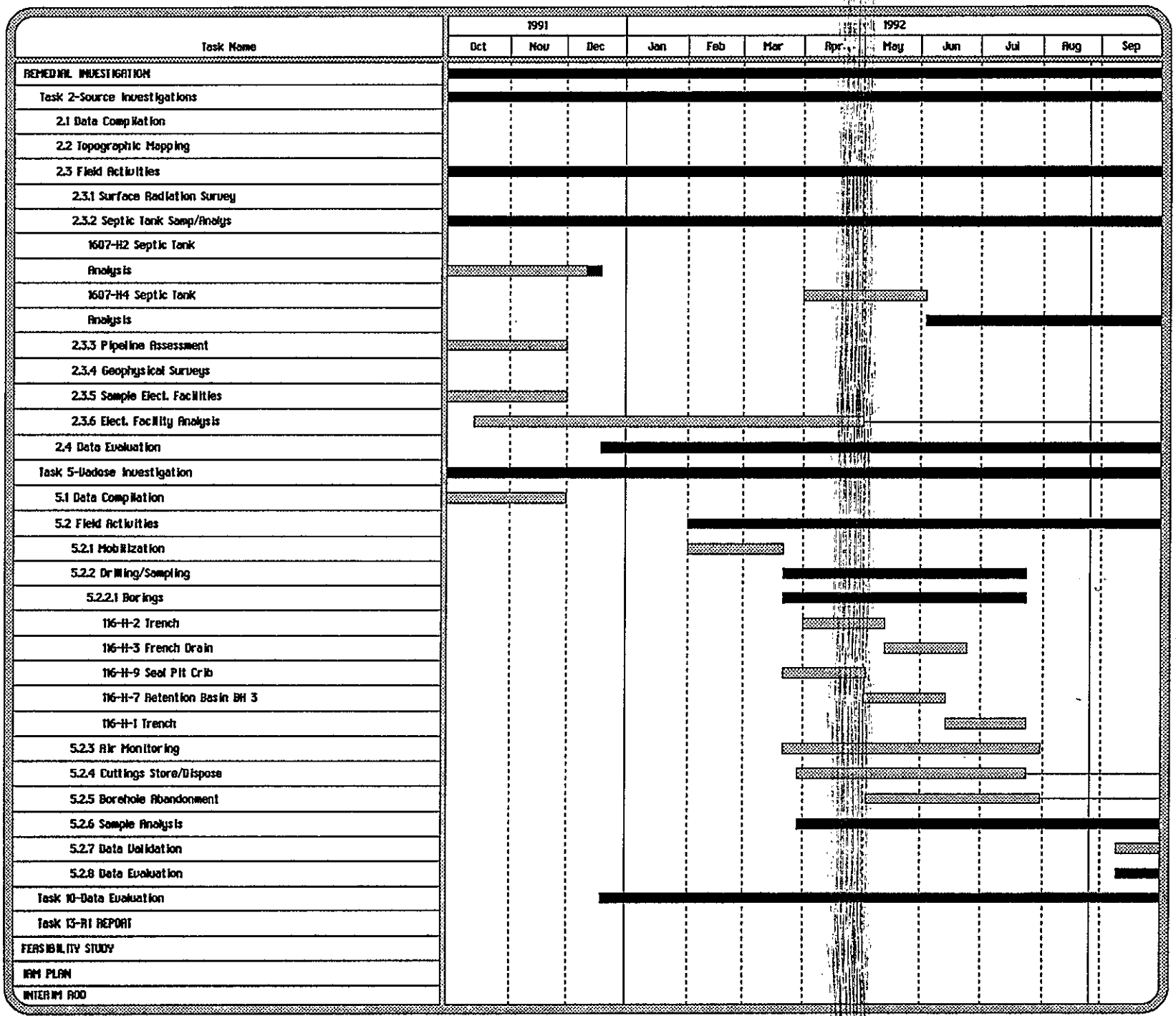
Task 5	Vadose Investigation	
Task 5.1	Data Compilation	Completed December 1991
Task 5.2	Field Activities	
Task 5.2.1	Mobilization	Completed
Task 5.2.2	Drilling/Sampling	Completed
Task 5.2.3	Air Monitoring	Continued as planned
Task 5.2.4	Cuttings Store/	Continued as planned
Task 5.2.5	Borehole Abandonment	Continued as planned
Task 5.2.6	Sample Analysis	Continued as planned
Task 5.2.7	Data Validation	
Task 5.2.8	Data Evaluation	

Report List for 100-DR-1 See Table 4

Table 4

Report List for 100-DR-1
WHC-SD-EN-DP-015, Summary Report Source Data Compilation for 100-HR-3 Operable Unit
WHC-SD-EN-AP-067. 100-DR-1 Area Nonintrusive Source Investigation Activities, December 26, 1991.
WHC-SD-EN-AP-067. Rev. 1, 100-DR-1 Area Nonintrusive Source Investigation Activities. (TBI).
WHC-SD-EN-AP-061, Rev.1. Description of Work for the 100-DR-1 Source Operable Unit. November 12, 1991.
WHC-SD-EN-AP-061, Rev.0. Description of Work for the 100-DR-1 Source Operable Unit. October 11, 1991.
WHC-MR-0257, 100-DR-1, Geophysical Surveys. May 1991.

100-HR-1 Operable Unit - Jeff Ayres



100-HR-1 TASKS, AUGUST 1992

Task 1, Project Management

- On Going

Task 2, Source Investigation

- Data Compilation, Completed (Dec 91)
- Topographic Mapping, Completed (Aug 91)
- Site Walkover, to be completed Spring-Summer 1992
- Surface Radiation Survey, Completed (Oct 91)
- Geophysical Survey-Completed (June 91)
- Septic Tanks, Completed (Jul 92)
- Pipeline Assessment- Completed (Jan 92)
- Electrical Facilities, Completed Sampling Dec 91

Task 3, Geological Investigation

- Performed as part of 100-HR-3

Task 4, Surface Water and Sediment Investigation

- Performed as part of 100-HR-3

Task 5, Vadose Zone Investigation

- Drilling started on 26 Feb 1992
- Drilling completed on 13 Mar 1992
- 5 Boreholes Completed
  - 116-H-1 (Disposal Trench)
  - 116-H-2 (Disposal Trench)
  - 116-H-3 (French Drain)
  - 116-H-7 (Retention Basin)
  - 116-H-9 (Seal Pit Crib)

Task 6, Groundwater Investigation

- Performed as part of 100-HR-3

Task 7, Air Investigation

- Activity being performed as routine health and safety air monitoring in support of investigation activities.

Task 8, Ecological Investigation

- Performed as part of 100-HR-3

100-HR-1 DOW Schedule,				3/20/92
Title & Document Number of DOW		One Week DOE-RL review starting:	Two week Regulatory review starting:	Sampling Activity starting:
1	100-H & 100-B Area Electrical Facilities Source Sampling, WHC-SD-EN-AP-064, Rev. 1	Completed	Completed	December 9, 1991
2	Description of Work for the 100-HR-1 Source Operable Unit, WHC-SD-EN-AP-066	Completed	Completed	February 26, 1992
3	1607-H4 Septic Tank Sampling, WHC-SD-EN-AP-096	Completed	Completed	August 3, 1992
4				
5				

100-HR-1 DOCUMENTS

- 100-HR-1 GEOPHYSICAL SURVEYS WHC-MR-0263
- 100-HR-1 RADIOLOGICAL SURVEYS WHC-MR-0275
- Engineering Report for H Area Process Effluent Line Examination WHC-SD-NR-ER-092

100-NR-1 Operable Unit Status
August Unit Managers Meeting

1. Surface Radiation Survey

The N Area surface radiation survey has been completed to the extent possible. Approximately 162 acres could not be surveyed because of high levels of sky shine. An attempt will be made in FY93 to continue the survey, using some new equipment expected to be on site in January, 1993. If this is unsuccessful, the survey will be postponed until the sky shine problem is corrected. A modification to the Milestone M-30-03 description has been prepared for approval at this Unit Managers Meeting.

2. Soil Gas Survey

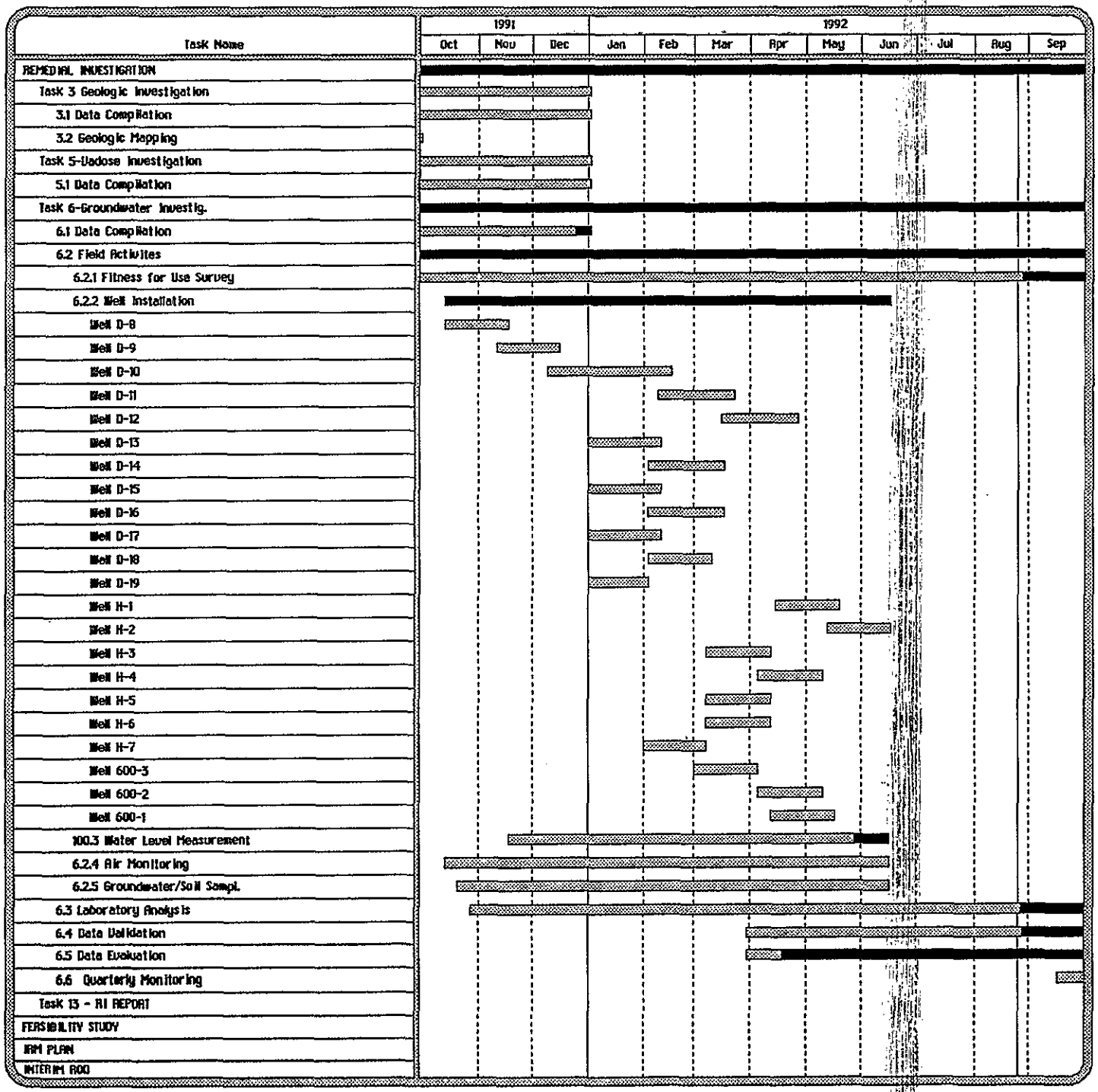
Sites:
Main Fuel Oil Unloading Station
Diesel Oil Unloading Station
Outlet of Each 166-N Storage Tank
Un-N-1 Burn Pit

Status:
As of August 20, 1992, all permits were obtained, the Job Safety Analysis completed, the Cultural Resources Review completed, underground service lines located and the probe (11) sites marked. Installation of the probes is scheduled to be completed by the end of August and sampling to be initiated the first week of August.

SEPT ?

100-HR-3, 100-NR-2 OUs
Steve Vukelich

100-HR-3 Operable Unit - Steve Dukelich



100 HR-3 GROUNDWATER OPERABLE UNIT
WORK SUMMARY 8/26/92

TASK 3 - GEOLOGIC INVESTIGATION

Data Compilation - WHC released a report titled, "Geologic Information Summary for the Northern Portion of the Hanford Site". A Geologic Map was completed in June, 1992.

TASK 5 - VADOSE INVESTIGATION

Data Complilation - WHC released a report titled, "Hydrologic and Geologic Data Available for the Region North of Gable Mountain".

TASK 6 - GROUNDWATER INVESTIGATION

Data Complilation - WHC plans to release a report titled, "Hydrologic Information Summary for the Region North of Gable Mountain" in late August/early September, 1992.

Quarterly Monitoring - Two rounds of groundwater samples have been taken.

100 NR-2
GROUNDWATER WELL DRILLING
STATUS 8/26/92

Well #	Start Date	Present Depth (ft)	Finish Date	Status
N-80	7/10/92	TD 126 ft.	8/6/92	

100-BC-1, 100-KR-1, 100-FR-1 OUs
Jeff Ayres

100-FR-1 1993 VADOSE DRILLING

BOREHOLE	NO. HOLES	NO. TEST PITS
116-F-1 Lewis Canal	1	2
116-F-2 Basin Overflow Trench	1	
116-F-3 Fuel Storage Basin Trench	1	
116-F-6 Liquid Waste Disposal Trench	1	
116-F-9 PNL Animal Waste Leach Trench	3	
116-F-14 Retention Basins	1	
108-F French Drain	1	

100-BC-1 SOURCE OPERABLE UNIT WORK SUMMARY
August 26, 1992

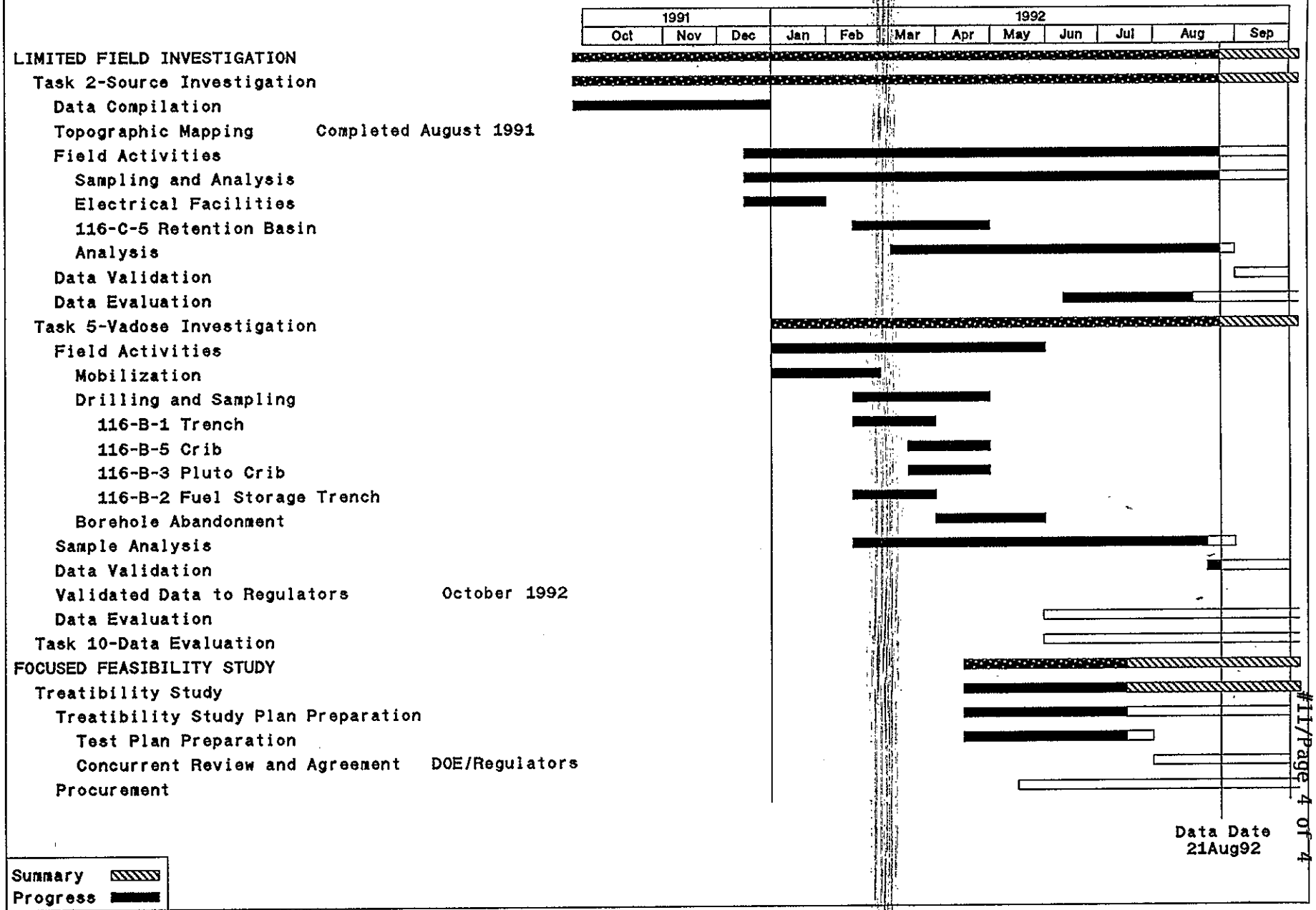
Task 2 - Source Investigation:

Field activities are complete. Sample analysis is scheduled to be complete by the end of August. Data validation is currently under way.

Task 5 - Vadose Investigation:

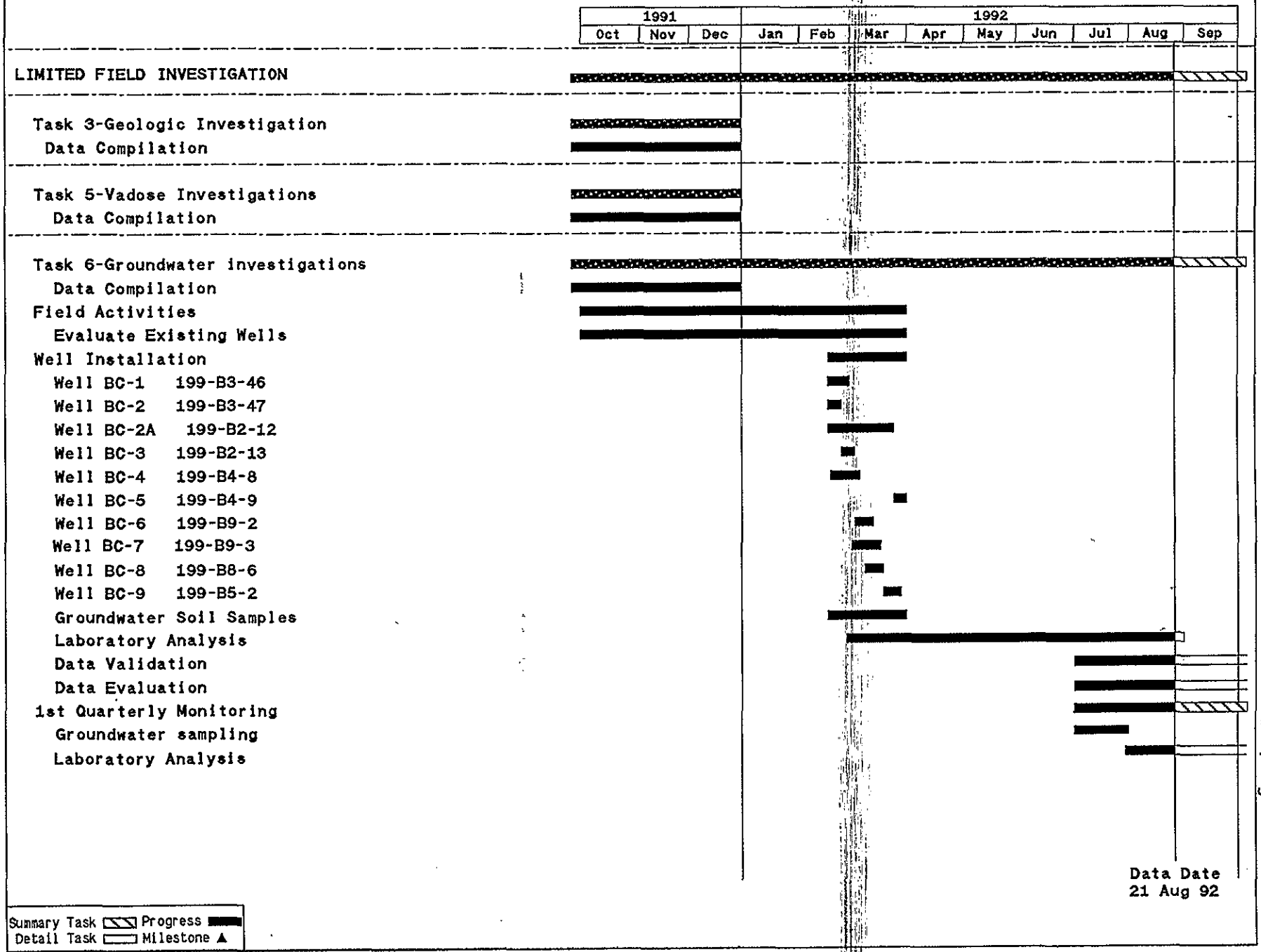
Field activities are complete. Sample analysis is scheduled to be complete by the end of August. Data validation is currently under way.

100-BC-1 OPERABLE UNIT



100-BC-5, 100-KR-4, 100-FR-3 OUs
Jim Roberts

100-BC-5 OPERABLE UNIT



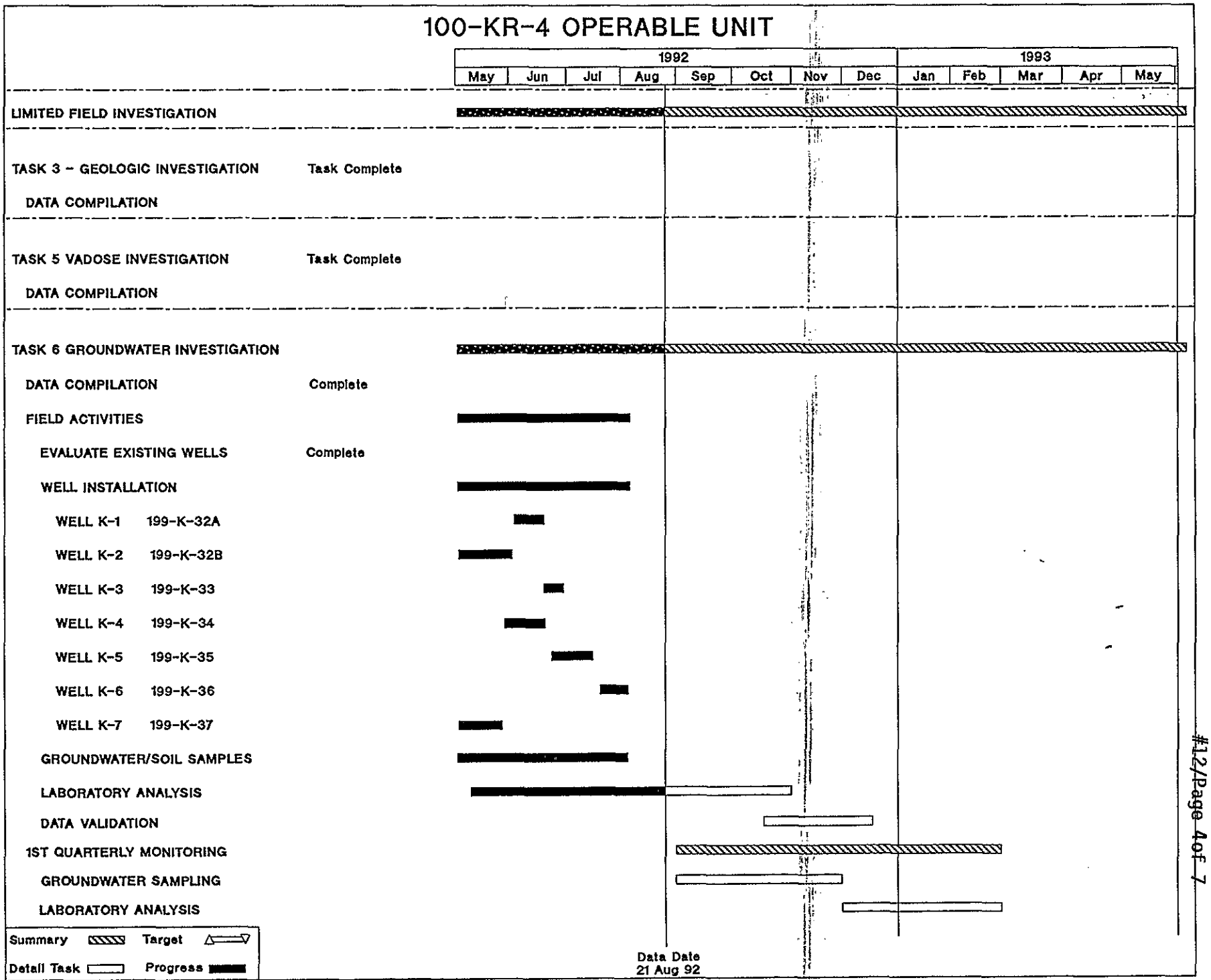
100-BC-5 DRILLING STATUS

WELL NUMBER	START DATE	COMPLETION DATE	CURRENT DEPTH	INST. READINGS	SCREEN INSTALLED
199-B3-46	2/19/92	2/28/92	TD 67′	N/A	3/30/92
199-B3-47	2/19/92	2/25/92	TD 61′	N/A	5/4/92
199-B2-12	2/19/92	4/1/92	TD 179′	H_2, 144′	5/20/92
199-B2-13	2/26/92	3/3/92	TD 40′	N/A	3/25/92
199-B4-8	2/20/92	3/5/92	TD 90′	N/A	4/1/92
199-B4-9	4/6/92	4/21/92	TD 90′	400cpm 16-23′	5/28/92
199-B9-2	3/4/92	3/12/92	TD 118′	N/A	4/29/92
199-B9-3	3/3/92	3/18/92	TD 109′	N/A	4/8/92
199-B8-6	3/10/92	3/23/92	TD 89′	H_2, 50′	4/3/92
199-B5-2	3/25/92	4/10/92	TD 76′	N/A	4/30/92

- ALL FY92 DRILLING ACTIVITIES COMPLETE (APRIL)

- 1ST QUARTER GROUNDWATER SAMPLING COMPLETE (JULY)

100-KR-4 OPERABLE UNIT



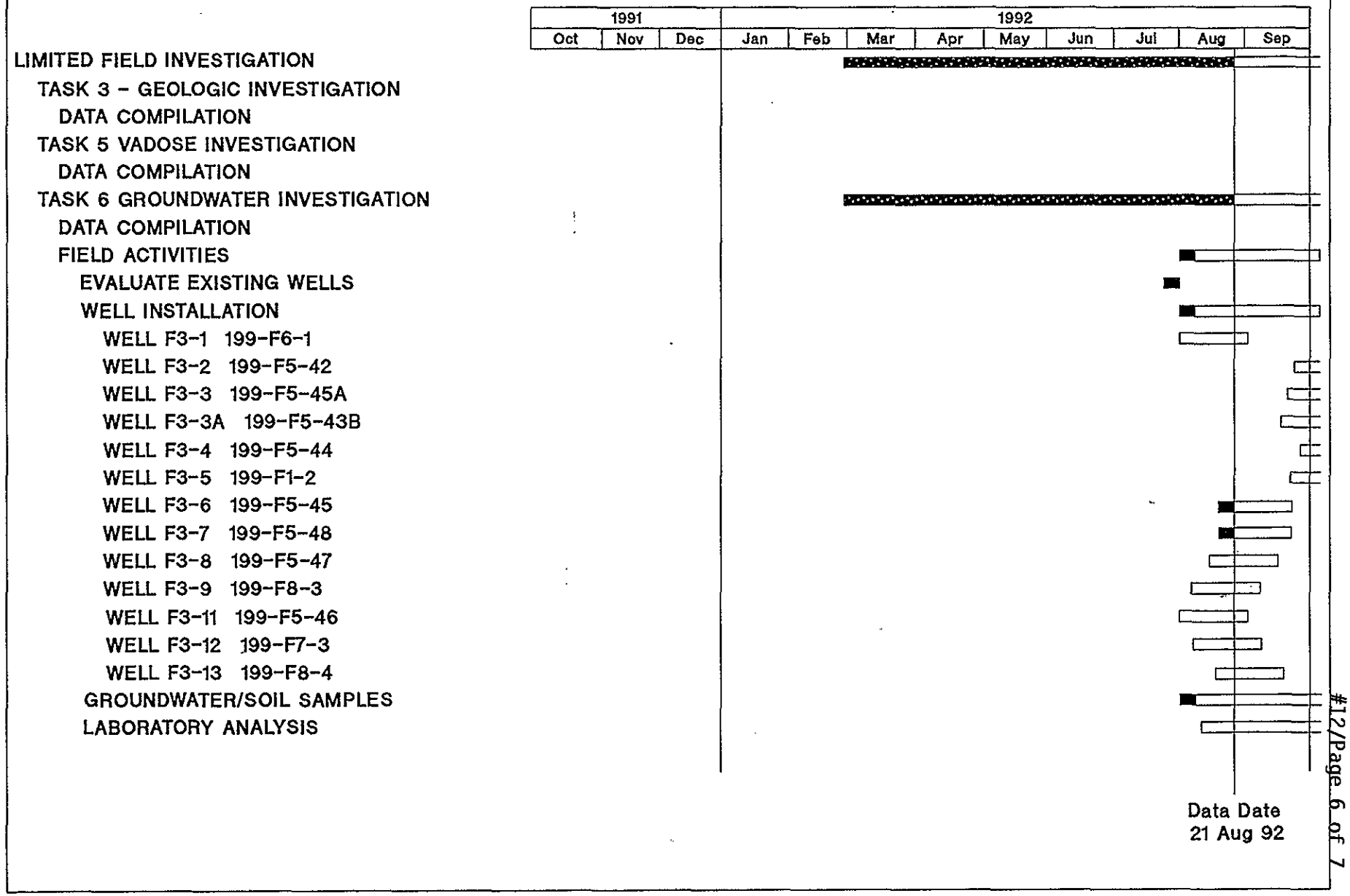
100-KR-4 DRILLING STATUS

WELL NUMBER	START DATE	COMPLETION DATE	CURRENT DEPTH	INST. READINGS	SCREEN INSTALLED
199-K-37	5/4/92	5/26/92	TD 70 ft	N/A	6/23/92
199-K-32A	6/8/92	6/16/92	TD 70 ft	N/A	7/21/92
199-K-32B	5/4/92	6/5/92	TD 175 ft	H_2	7/30/92
199-K-33	6/19/92	6/29/92	TD 66 ft	N/A	7/15/92
199-K-34	5/29/92	6/17/92	TD 89 ft	N/A	8/3/92
199-K-35	6/23/92	7/15/92	TD 116 ft	H_2	8/6/92
199-K-36	7/20/92	8/13/92	TD 109 ft	H_2	8/11/92

- ALL FY92 DRILLING ACTIVITIES COMPLETE (AUGUST)

- 1ST QUARTER GROUNDWATER SAMPLING SCHEDULED FOR SEPTEMBER

100-FR-3 OPERABLE UNIT



100-FR-3 DRILLING STATUS

WELL NUMBER	START DATE	COMPLETION DATE	CURRENT DEPTH	INST. READING	SCREEN INSTALLED
199-F1-2					
199-F5-42					
199-F5-43A					
199-F5-43B					
199-F5-44					
199-F5-45	8/18/92	8/20/92	TD 52.6 ft	N/A	
199-F5-46					
199-F5-47	8/21/92		30 ft		
199-F5-48	8/19/92	8/21/92	TD 55 ft	N/A	
199-F6-1					
199-F7-3					
199-F8-3	8/25/92		10 ft		
199-F8-4					

- FY92 DRILLING ACTIVITIES INITIATED (AUGUST)

- 1ST QUARTER GROUNDWATER SAMPLING SCHEDULED FOR DECEMBER

Control Number	100 NPL Agreement/Change Control Form	Date Submitted
13 - Rev. 1	X Change ___ Agreement ___ Information Operable Unit(s) M-30-03	Date Approved

Document Number & Title:	Date Document Last Issued
100 NPL Agreement/Change Form 13 - Milestone M-30-03: Complete all nonintrusive field work	June 4, 1992

Originator	Phone
R. P. Henckel	(509) 376-2091

Summary Description

The milestone description provided in the 100 NPL Agreement/Change Control Form #13, for the 100-NR-1 Operable Unit, stated that a surface radiation survey would be conducted in the N Area except as noted. This change is to ammend the list of exclusions to include areas where, because of sky shine, reliable data can not be collected. These areas would be surveyed at a later date, when the sky shine was reduced or eliminated. A revised milestone agreement is attached.

This revision also corrects two entries in the table, under 100-NR-1 Soil Gas Survey. "116-N" should be "166-N" and "Trench" should be "pipe leak site."

This revision also updates entries under 100-DR-1 Near Surface samples, as ammended under Forms 19, 20, 21, 22, and 24.

Justification and Impact of Change

Sky shine from the 1301-N and 1325-N facilities prevents the collecting of reliable data, using conventional methods as have been utilized in the other operable units. An attempt to use a shielded casing over the instrument was unsuccessful. This change will have no impact on the current activities since the surface radiation survey data will not be needed until the RFI report is written, several years in the future. As the 1301-N and 1325-N facilities are remediated, the sky shine problem will be eliminated and this data collected.

R. P. Henckel RP Henckel	8/25/92
WHC 100 Area Rem. Investigation Mgr.	Date
E. D. Goller E D Goller	8-26-92
DOE Unit Manager	Date
EPA	8-26-92
Ecology	8-26-92
	Date

Per Action Plan for Implementation of the Hanford Consent Order and Compliance Agreement Section 9.3

Control Number	100 NPL Agreement/Change Control Form __ Change X Agreement __ Information Operable Unit(s) ______	Date Submitted Date Approved

Document Number & Title: Milestone M-30-03: Complete all non-intrusive field work as identified in draft work plans for the following operable units: 100-HR-1/3, 100-DR-1, 100-BC-1/5, 100-KR-1/4, 100-FR-1/3, and 100-NR-1/3*	Date Document Last Issued
Originator R. P. Henckel	**Phone** (509) 376-2091

Summary Description

Milestone M-30-03 was created in the spring of 1991, prior to the rescoping of the 100 Area Work Plans. It calls for the completion of all non-intrusive field work in the first 11 operable unit work plans. Since that time, the draft work plans have undergone a number of changes. The purpose of this 100 NPL Agreement/Change Control Form is to document agreement on those activities which must be completed by September 1992, to fulfill this milestone. The attached table lists the specific activities which, when completed, denote completion of the milestone.

Justification and Impact of Change

Not applicable.

* 100-NR-3 Operable Unit has been eliminated. A new Groundwater Operable, 100-NR-2, has been created. RPH

8-26-92
DDT 8/26/92

9212715 0959

The M-30-03 milestone, which is to be completed by September 1992, is stated as follows:

> Complete all non-intrusive field work as identified in draft work plans for the following operable unit work plans:
>
> 100-HR-1, 100-HR-3, 100-DR-1, 100-BC-1, 100-BC-5, 100-KR-1, 100-KR-4, 100-NR-1, 100-NR-2, 100-FR-1, and 100-FR-3.

For purposes of defining the scope of work for this milestone, non-intrusive activity shall be as described in Section 7.3.2 of the Tri-Party Agreement Action Plan. This consists of the following types of activities:

- Survey location of sites
- Surface radiation
- Surface geophysical surveys
- Air sampling
- Soil gas surveys
- Biotic surveillance, and
- Near-surface vadose zone sampling

The attached table details the activities which, when conducted, will complete this milestone. It lists them on a operable unit by operable unit basis. The following is a summary by activity type.

1. Survey location of sites: Topographic mapping of the 100 Area was completed in fiscal year 1991 and provides the basis for site locations. As sampling and drilling is completed, individual sites are scheduled for surveying and entering into the HEIS data base. This is an on-going activity and will continue into fiscal year 1993 as additional sites are sampled.

2. Surface radiation: Surface radiation surveys have been completed or are scheduled to be completed in 100-HR-1, 100-DR-1, 100-NR-1, and the 100 Area shoreline of the Columbia River by September 1992. No surveys are planned for 100-BC-1, 100-FR-1, 100-KR-1, 100-BC-5, 100-FR-3, 100-HR-3, 100-KR-4, and 100-NR-2.

3. Surface geophysical surveys: Surface geophysical surveys have been completed in 100-HR-1 and 100-DR-1 to aid in locating specific potential waste sites and drilling sites. No geophysical surveys are planned for the remaining operable units but surveys will be conducted as needed.

4. Air sampling: No air sampling has been conducted or is planned to be conducted as part of the non-intrusive activities. Air sampling is, however, routinely conducted for Health and Safety reasons as part of the drilling and sampling activities.

5. Soil gas surveys: Soil gas surveys have been completed in the 100-DR-1 Operable Unit and are planned to be completed for the 100-NR-1 Operable Unit by September 1992. No soil gas surveys are planned for the remaining operable units, although some surveys may be conducted to support specific waste site investigations.

6. Biotic surveillance: Various biotic surveillance and sampling activities have been conducted in all of the source and groundwater operable and along the 100 Area Columbia River shoreline. These initial surveys provide the information to develop the conceptual models of environmental and human health risk for the 100 Area. Additional surveys will be conducted on an as needed basis.

7. Near-surface vadose sampling: Near-surface vadose sampling has been or is scheduled to be completed by September 1992 in the 100-HR-1, 100-DR-1, 100-BC-1, and the 100-FR-1 Operable Units. Additionally, spring water and sediment sampling have been conducted along the 100 Area Columbia River shoreline. No near-surface vadose sampling is planned for the 100-KR-1, 100-NR-1, 100-BC-5, 100-FR-3, 100-HR-3, 100-KR-4, and 100-NR-2 Operable Unit.

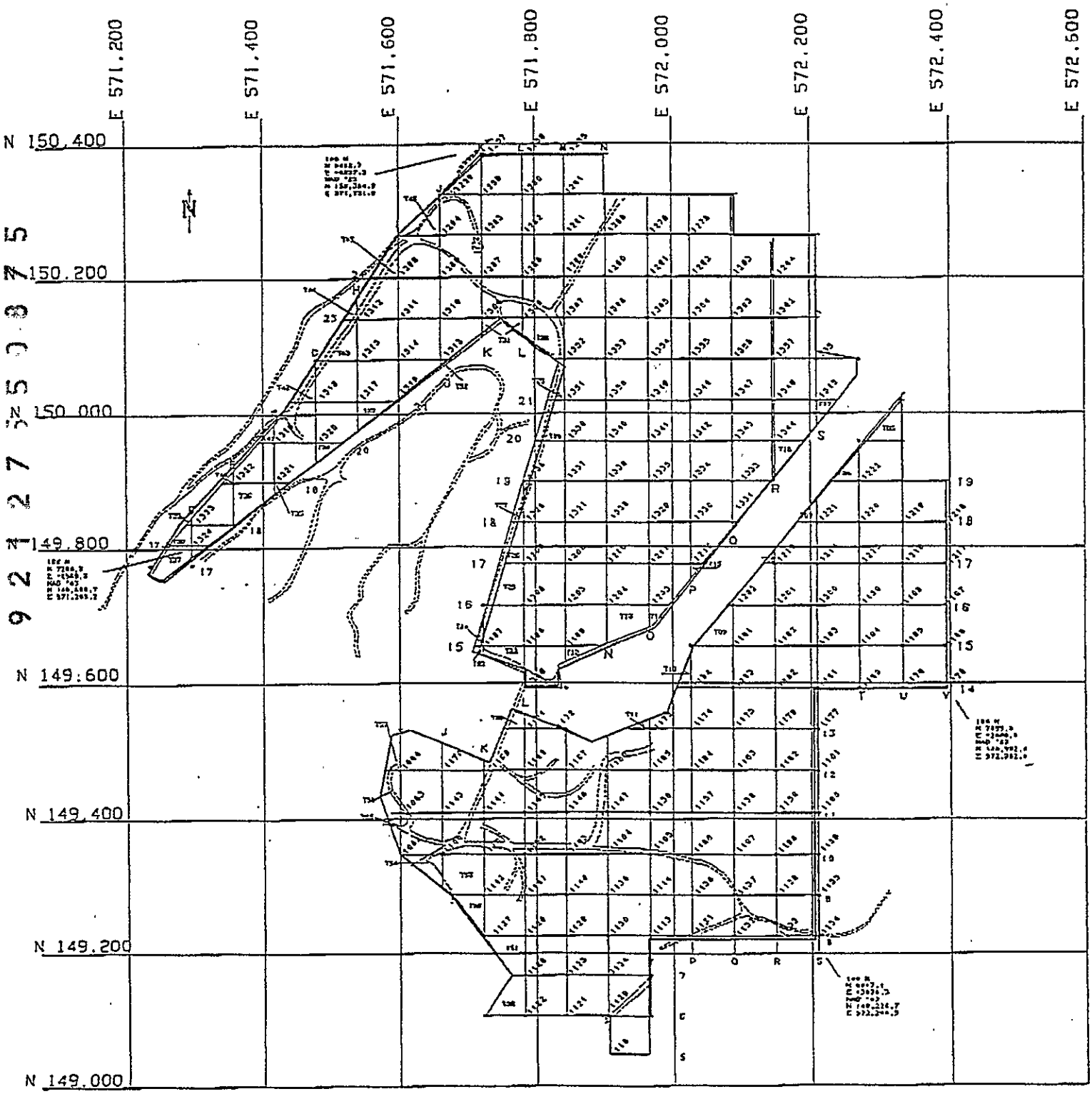
OPERABLE UNIT	ACTIVITY DESCRIPTION
100 Area Wide	Spring Water & Sediment Sampling as identified in DOE/RL-92-12 Shoreline Radiation Survey of HR-3 & KR-4 Ecological Surveys i) Bird Surveys at HR-3 & BC-5 ii) Vegetation Maps of Shoreline from 100-B to 100-F iii) Mammal & Burrowing Insect surveys for waste disposal cribs and trenches for HR-1, DR-1, BC-1, FR-1, KR-1, and NR-1. Ecological Sampling i) Asp., reed canary grass and tree leaf sampling at HR-3, BC-5, FR-3, KR-4, and NR-2 ii) Aquatic sampling at HR-3 and NR-2 as identified in Appendix D2 of the work plans
100-HR-1	Surface Radiation Survey (all of HR-1 except controlled zones) Septic Tank Sampling 1607-H-4 Septic Tank Sampling 1607-H-2 100H Process Effluent Pipeline Inspection (north pipeline between expansion box #5 and the retention basin) Geophysical Surveys (116-H-4, 1716-H, 1717-H, 116-H-7, 190-H) Potential PCB Contaminated Electrical Facilities (105-H, 151-H)

100-DR-1	Surface Radiation Survey (100-DR-1 Area with the exception of Controlled Zones) Geophysical Survey (116-D-2 Pluto Crib, Waste Acid Disposal Reservoir, 1607-D4 Septic Tank, Questionable Septic Tank) Soil Gas Surveys (1713-D, 1714-D, 1715-D, 1716-D, 1722-D, Paint Shop Near 182-D, 184-DA UST, 166-D Tank and Piping, 103-D, 1607-D4 Septic Tank, Burial Ground 4A, Burial Ground 4B, Burial Ground 18, 126-D-2 Landfill Near surface samples: 1724-DA Underwater Test Facility Sodium Dichromate Tank 108-D Office Bldg/Decon Bldg Septic Tank File Field Ash Disposal Basin (126-D-1) Salt Dissolving Basin 103-D Green Metal Storage PCB Samples: Electrical Facilities (183-D, 185-D, 189-D, 190-D, 105-D, 151-D, 190-DR, 181-D, 186-D, 105-DR)
100-HR-3	None
100-BC-1	Electrical Facility Sampling (181-B, 183-B, 186-B, 185-B, 190-B, 190-BA, 190-C, Pole E2-L2321, Pole E2-L2313, 1713-B 116-C-5 Retention Basin
100-BC-5	None
100-KR-1	None

100-KR-4	None
100-NR-1	Soil Gas Survey (166-N, UN-100-N-17 pipe leak site) Surface Rad Survey (Excludes parking lots, known rad areas, areas routinely surveyed, HGP and BPA facilities, HGP Burn Pit & Grass Dump, and areas of high sky shine as shown in Figure 1.
100-NR-2	None
100-FR-1	Source Investigation (132-F Feeding Barn)
100-FR-3	None

Figure 1

100-NR-1 USRADS SURVEY-AREA UNSURVEYABLE DUE TO ELEVATED RADIATION LEVELS FROM PAST 100-N OPERATIONS



Distribution
Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
August 26, 1992

Julie K. Erickson . . . . . Chief, Env. Remed. Br., DOE-RL, ERD (A5-19)
Mike Thompson . . . . . DOE-RL, EAP/RPB (A5-19)
Diane Clark . . . . . DOE-RL, TSD/SSB (A5-55)
Steve Balone . . . . . DOE-HQ (EM-442)
Suzanne Clarke, SWEC . . . . . GSSC to DOE-RL (A4-35)

Dennis Faulk . . . . . 100 Aggregate Area Manager, EPA (B5-01)
Ward Staubitz, USGS . . . . . Support to EPA
Audree DeAngeles, PRC . . . . . Support to EPA

Darci Teel . . . . . 100 Aggregate Area Manager, WDOE (Kennewick)
Larry Goldstein . . . . . WDOE (Lacey)

Lynn Albin . . . . . Washington Dept. of Health

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